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ABSTRACT

A study investigated the affective influence of the traditional textbook approach on students in an Educational Foundations Course at Iowa State University, and also evaluated their attitude toward teaching as a career. The changes were measured by an evaluative form of the semantic differential consisting of 12 philosophical, sociological, and educational concepts individually rated on a series of nine-point bipolar adjectival scales. Of 228 students involved, 97 were taught by the traditional method and 131 used controversial and critical material. Pre- and post-test scale scores with means and standard deviations were obtained, and t tests were computed. Results showed a significant pretest difference between the groups only on interracial dating; the control group changed from positive to neutral on discipline; the experimental group changed significantly on punctuality, absolute truth, grades, church, public school teachers, and discipline, all in a negative direction; t tests showed that the experimental group became less committed to teaching. Conclusions, supported by a review of literature, are that readings of a controversial nature produce more attitudinal changes than the textbook approach. (A 43-item bibliography is included, together with the evaluation instrument and correlation matrixes.) (MBM)

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THE MEASUREMENT OF ATTITUDE CHANGE IN AN INTRODUCTORY EDUCATION COURSE

by

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INTRODUCTION

Why do we teach? According to Mager (1968) we hope that as a result of our efforts a student will gain or change in some way--either in knowledge, understanding, skill development, or attitude toward a subject and appreciation of it. "No teaching goal can be reached unless the student is influenced in some way to become different than he was before the instruction was undertaken." (Mager, 1968, p. 8). Leonard (1968) agrees that we should be teaching to bring about change, for without it no learning takes place. "To learn is to change." (Leonard, 1968, p. 7).

Significance of the Problem

It seems reasonable, then, to assume that most teaching should involve some type of behavioral change which is to take place as a result of the classroom experience. This change, as seen by Bloom (1961), relates to three major domains--cognitive, psychomotor, and affective--into which all course objectives can be classified. Cognitive goals are those pertaining to an increase in the knowledge, understanding, and evaluative aspects of learning; psychomotor goals refer to the acquisition of new muscular controls and motor skills; and affective goals relate to changes in attitudes, values, interests, and appreciations.

These domains are useful when evaluating course outcomes.

In the realm of teacher education programs there is evidence that students make cognitive gains at all levels of teacher preparation. Methods courses and student teaching aim at providing adequate psychomotor skills for successful classroom operation. But not many empirical studies have been conducted to show that any of the professional education courses penetrate the affective domain. This is especially true of educational foundations courses, where affective changes might reasonably be expected to occur.

The general intent of this study is to investigate two particular foundations classes and evaluate their affective outcomes. Therefore, it will be valuable to take a brief look at the type of course which usually constitutes a student's starting point for his professional training.

Since the nineteenth-century emergence of teacher education as a post-secondary branch of study in America, courses dealing with the societal foundations of education have been common. Most states still require all candidates for certification to have taken at least one foundations course. Even where state departments of education do not specifically demand History of Education, Philosophy of Education, Sociology of Education, Foundations of Education, School and Society, Introduction to Education, or some other variant of this familiar theme, colleges and universities preparing teachers usually see that students take courses dealing with these

areas. Justifications for this requirement vary but rarely include any intention of providing skills, techniques, or content for the prospective teacher's later use in the classroom. Other courses are aimed at teaching these essentials. The usual rationale for the foundations courses is that prospective teachers will gain a better understanding of the societal bases of functions which schools and their staffs actually perform, thereby (1) giving teacher candidates a firmer ground for deciding whether or not to teach, and (2) helping students to become more critical evaluators of educational systems and social issues, whether they continue in professional education or not.

The chief question facing anyone connected with foundations courses is whether their traditional content leads to a realization of these goals or whether that content is merely an abstract hurdle standing between the candidate and licensure. If students' attitudes toward social issues, schools, children, and teaching are no different after such a course than before--if there is no affective change--one must doubt whether the experience is sufficiently valuable to merit retention as a part of teacher preparation. Indeed, a growing body of critics suggests that students are not gaining the desired benefits, and that the fundamental fault is with course content, especially text material (Shields, 1968).

The present criticism of and debate over the effective-

ness of foundations courses indicate a need for additional research. In an effort to partially fill the need, this study seeks to analyze the affective impact of traditional and non-traditional material in a beginning education course, Foundations of American Education, taught at Iowa State University.

Purpose

More specifically, the purpose of this investigation was threefold: to determine the affective influence of the traditional approach on students' attitudes; to determine whether or not alteration of course content away from a traditional textbook approach to literature critical of schools will have affective consequences on the attitudes of students enrolled in such a course; and in both types of classes to evaluate student attitude change toward teaching as a career. These changes were measured by an evalutive form of the semantic differential. The traditional orientation served as the control situation and the less traditional approach was designated as the experimental.

Hypotheses

The following null hypotheses were adopted:

1. There are no significant differences between the attitudes of students in the control and experimental groups before taking the introductory foundations course, Education 204.

2. There are no significant differences between the attitudes of students in the control group before and after taking Education 204.

3. There are no significant differences between the attitudes of students in the experimental group before and after taking Education 204.

4. There are no significant differences between the attitudes of students in the control and experimental groups after taking Education 204.

5. There are no significant differences in commitment to teaching between students in the control and those in the experimental groups before taking the course.

6. The students in the control group show no significant changes in their commitments to teaching.

7. The students in the experimental group show no significant changes in their commitments to teaching.

8. There are no significant differences in commitment to teaching between students in the control and experimental groups after taking the course.

Assumptions

The following assumptions were made:

1. Teachers' personalities are not a significant factor in any resulting attitude change.

2. Teaching methodologies in both the control and experimental groups are essentially the same.

3. Changes in the affective domain can be measured by attitude change.

4. The evaluative dimension of semantic space can be identified with attitude, and a form of the semantic differential is an appropriate indicator of attitude change.

5. The final N sampling of students is representative of all students in the two groups.

6. Some of the change will remain to affect students' future teaching values and attitudes.

7. Students' experiences outside the control and experimental classrooms are not a significant factor in any resulting attitude changes.

Limitations

This study was conducted during the 1968 winter quarter at Iowa State University and was administered to all students, the majority being freshmen and sophomores, in Education 204. It may not be appropriate, therefore, to generalize the results to other situations.

The final N sampling of students was dependent upon absences, attrition, and failure to complete both the pre and post differentials satisfactorily.

REVIEW OF LITERATURE

The presentation of relevant literature will be divided into two categories: a review of those studies pertaining to student attitude change and college curriculum and a discussion of the semantic differential as a measure of attitude change.

Attitude Change and College Curriculum

When examining the existing literature related to attitude change at the college level, one cannot overlook the comprehensive investigation by Jacob (1957). His findings were surprising to say the least, for there was little, if any, evidence to support the idea that college experiences do significantly affect, alter, or form student values. Jacob and his committee surveyed and compiled data from the studies of a great many institutions and organizations both large and small. The original intent of this undertaking was to see what changes do occur in the value patterns of students during college and "to what extent such changes stem from exposure to various types of social science instruction in the 'general' part of the curriculum." (Jacob, 1957; p. xii.) As the study progressed and extenuating factors were exposed, the scope of the investigation was enlarged to include these interlocking elements: the impact of the instructor, various teaching methods, and the character or climate of a particular

institution.

Accordingly, Jacob's committee characterized 75 - 80 per cent of American college students as: "gloriously contented" in regard to the present and the future; self-centered and basically of a conforming nature but with an "easy tolerance of diversity"; needing religion but in an isolated way which did not affect decision-making in the secular world; dutifully and unenthusiastically responsive toward the government; and valuing the college experience for its vocational and social possibilities but not for its intellectual or character-building contributions. The overall effect of higher education upon students' values was to bring about "general acceptance of a body of standards and attitudes characteristic of college bred men and women in the American community." (Jacob, 1957, p. 4.) Thus, four years of college produced more homogeneity and consistency of values among students; there was no evidence of a liberalized outlook. The committee concluded that the experience of higher education refined but did not basically alter most individuals' attitudes and values, except to increase their preoccupation with status, achievement and prestige. Graduates tended to fit comfortably into the ranks of American college alumni.

Jacob's investigations also found that the impact of good instructors was not discernible from that of poor ones. Although there were specific instances of teacher influence and

students did attach particular importance to teachers who had a high respect for them as persons and who could arouse interest, there was no evidence of a mass affective impact of the instructors upon students' values.

Similarly, the use of a specific instructional method played only a minor role in influencing value judgments. Under certain circumstances student-centered teaching resulted in more satisfactory emotional and social adjustment; and the more directly the course experience related to the individual's own problems, the more significant was the impact. Generally speaking, however, the study produced little support for the belief that certain methods are more effective than others in influencing change.

Some of the institutions did stand out from the national pattern in redirecting and maturing student values. These were usually private colleges of modest enrollment which had a common high level of expectancy of their students. Although specific expectations varied widely from one institution to another, the investigators felt that this type of college had more of a "personality" from the students' viewpoint than the majority of institutions studies, and hence, developed a stronger loyalty in them.

In an effort to explain Jacob's rather unexpected conclusions, Gottlieb and Hodgkin (1963) postulated that the college community has its own unique socio-cultural system with

distinctive value orientations. They subsequently identified four subcultures into which students could be classified according to their value orientation. They found that attitude changes varied in type, direction, and degree among the different subgroups and that to assume a general change, as did Jacob, might be misleading. In other words, the lack of value changes in Jacob's findings may have been due in part to the counteracting effects of certain subcultures present but unidentified in his college population.

The rest of the significant literature related to attitude change will be discussed in terms of four factors pertaining to those areas isolated by Jacob. They are (1) the course level, (2) the type of academic experience, (3) the types of course methods and activities, and (4) the influence of the instructor.

Course level factor

Three studies tried to determine whether or not freshmen and sophomore courses produce greater attitude shifts than those at the junior and senior levels. Jacobs (1968), in an effort to discover which phases of the teacher education program produced attitude modification, administered the Valenti-Nelson Survey of Teaching Practices to 1007 students--550 in the initial course and 457 in the final student teaching course. Results showed that students in the beginning class shifted toward more open attitudes, while the student

teachers became more rigid. Brim (1966) administered the Minnesota Teacher Attitude Inventory (MTAI) to 250 students at all levels of the teacher preparation program and discovered that students in the beginning courses showed the greatest degree of positive change (.01 level).[1] And Lehmann (1963), evaluating the changes in critical thinking, stereotypic beliefs, dogmatism and values of 1051 students as freshmen and again as seniors, found that most of the changes which occurred took place during the freshmen and sophomore years. However, he also found that there was a significant decrease in stereotypic beliefs and unreceptivity to new ideas from freshmen to senior years. This last finding detracts from the results of Jacobs and Brim--that seniors are more negative and rigid than freshmen.

Academic experience factor

Four studies involving attitude change after student teaching are discussed below. Two of them appear to be inconclusive and at best puzzling. Campbell (1967) found no significant total scale changes when the MTAI was administered to nine students before and after the student teaching semester. He grouped the inventory statements into categories or dimensions, however, and found significant dimensional changes (.05 level). Frank (1967) discovered the same lack of general change when using MTAI on 53 secondary student teachers at the

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[1]This change concerned attitudes toward children and was in the direction of faculty attitudes.

beginning and end of the semester. However, he gave the Semantic Differential Teacher Attitude Test (SDTAT) to the same students during the same period of time and found significant concept changes. Judging from the conclusions of these two investigations, one wonders if a general attitude change factor can be measured by the MTAI in a high school student teaching situation. Frank concluded that only one specific factor, that of the teacher's perception of pupil-teacher rapport, was successfully assessed by the MTAI, and that consequently, the instrument might be more appropriately used to measure student teacher attitude change in the lower grade levels where this teacher role is more often perceived in terms of a rapport relationship.

The other two studies concerning student teaching effects utilized different types of inventories and showed different results. The data from Lipscomb's study (1966) was based on a situational type of attitude measure, which pertained to children, curriculum, and the role of the teacher.[2] Results showed significant attitudinal shifts .001 to .005 level for all but three students (N = 44). Another study by Corrigan and Griswold (1963) measured attitudes toward three educational principles considered "important in guiding learning opportunities: (1) learners purposes are recognized and utilized,

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[2]This inventory consisted of 24 written situational type problems. Each student reacted to a problem by choosing one of six or seven response statements that was closest to his feelings.

(2) learner engages in problem solving, (3) learner is helped to develop generalizations which he can apply in a variety of life situations." (Corrigan and Griswold, 1963, p. 93) The sample consisted of forty-one student teachers using a pre and post form of an inventory developed specifically for their purposes. The mean attitude change was 9.8 points and the standard deviation was 21.5 and these changes were significant, although the confidence level was not disclosed.

The study which is probably most pertinent to this research is one conducted by Hoover and Schutz (1968). Using an evaluative form of the semantic differential they measured attitude change for seventy-five students who were primarily freshmen enrolled in an introductory foundations course. They found changes significant at the .05 level in responses to ten of the thirteen concepts used. Changes for five of these concepts--"middle class values," "conformity," "fixed absolute facts," "competition," and "keeping up with the Joneses"--were in a negative direction. The following five concepts showed changes in the opposite direction--"dirty, lazy students," "being proved wrong," "negro," "lower class values," and "Marxism". The concepts "generalization," "foreigners," and "common sense" exhibited no significant changes. The authors felt that the significant changes were related to a scientific course approach which trained students to evaluate their own premises and assumptions as well as those of the educational

profession.

In fields other than education, results point a little more clearly to attitude modification after certain courses. In the area of psychology, Costin and Kerr (1962) and later Dixon (1967) found changes in students' attitudes towards mental illness before and after taking courses in abnormal psychology. In medicine there was more internal consistency in the responses of two groups of students--one enrolled in a course of psychiatry and another in internal medicine--after taking the respective courses. (Hirt, Kurtz, Nicholas, and Terlesky, 1967). Using 181 students enrolled in an economic problems class, Dawson (1966) found that thirty-one per cent of the students changed their attitudes toward labor after taking the course.

In a more general vein another study tried to determine whether changes in attitudes and values were related to the experiences freshmen students have while in college. Lehmann and Payne (1963) administered an Inventory of Beliefs and Prince's Differential Values to 2219 students at the beginning and end of their freshmen year, and from this a small subgroup of "changers" emerged. As interviewers discovered, the "changers" felt that their formal academic experiences were not as influential in changing values as the more informal extra-curricular experiences.

Teaching methods and activities factor

Several studies have attempted to show that a correlation exists between varying teaching methods and changing attitudes. However, none of the eight studies discussed below show conclusively that teaching methodologies make any difference, though two indicate that course content is significant. Using a general psychology course in which first semester freshmen were enrolled, Dowell (1967) employed three different teaching methods--lecture, discussion, and independent study--but discovered no significant differences in changes among the three techniques. The author administered Bills' Index of Adjustment and Values and an "attitude toward psychology" scale constructed by the instructor. He found that in all groups the attitudes toward psychology became significantly more negative after taking the course. Attitudes toward self and others were unaffected by the experience.

In a child development class, using lecture, case-centered, and group-centered instructional treatments, Leton (1961) found that no one method proved superior in producing affective differences. Favorable changes resulted in all classes.

Hurst (1963) identified one general and three specific factors, one of which was attitudinal, from attitude change data gathered in an educational psychology course having

three different approaches.[3] Although there were variations for some of the factors in regard to approach, all three methods produced significant change for the attitudinal factor.

A study by Costin (1961) of two different orientations in sections of a child psychology course seems to be the most positive evidence to support the hypothesis that teaching methods do affect attitude change. Using a clinical approach for his experimental group and a socio-anthropological approach for his control, he found the greatest change in students enrolled in the clinical approach class. These changes seemed to be related to course content rather than to the instructors' attitudes, or the students' perceptions of these attitudes.

After using an approach which applied "methods of science to the practical problems of teaching," Hoover and Schutz (1968, p. 300) found significant changes in students' attitudes after taking an introductory education course. But since there was no control group in the study, the relative value of this approach over others is difficult to determine.

Carlson (1956) hypothesized that by altering students' perceptions of an attitude object, one could consequently alter their related attitudes. There were no significant changes of attitudes, however, in extremely prejudiced or

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[3]The approaches used were group decision, group discussion and lecture.

non-prejudiced people; only the less extreme positions showed alterations. Again, no control situation was used.

Activities factor Three studies have attempted to evaluate the activities used in presenting course content and their relationships to attitudinal variations. As far back as 1936, Knower studied the effects of the printed argument over the oral in changing student attitudes. He found that the printed form was only seventy-five to eighty-five per cent as effective as the oral. Dawson's study (1966) seems to uphold these results. Out of those who exhibited attitude change in this labor economics course, ninety-eight per cent felt that lectures were influential, and seventy-four per cent thought that the reading materials were also effective.

Through interviews after an education course Brim (1966) pinpointed eight other activities which the students deemed important in creating attitude shifts:

1. Oral and written presentation of highly controversial ideas.
2. Articulating the lectures with the textbook.
3. Continuously presenting provocative questions in class.
4. Allowing freedom for students to draw their own conclusions.
5. Showing great energy and enthusiasm for teaching.
6. Citing examples to clearly illustrate points.
7. Use of psychological principles of reinforcement.
8. Making inferences through side comments.

Since the first three of these activities seem related to course content and the last five to the instructor, it would be interesting, as well as valuable to this study, to know

just how much of the change would be ascribed to any one activity. Unfortunately, the investigators made no attempt to weight or rank the eight factors in order of their influence.

Instructor factor

The last factor to be considered is the instructor's role in changing the attitudes of his students. The works of Brim (1966) and Dixon (1967) point to the fact that this change is more related to the activities of the instructor than to the content of the text. On the other hand, Costin (1961) found the attitude change to be related to the course content rather than the views of the instructor. Similarly, Ofchus and Gnagey (1960) tested seventy-one sophomore women in the teacher education curriculum and discovered that their perceptions of an instructor's attitudes, his competence, and his permissiveness did not appear to be related to resulting attitudinal shifts toward teaching children.

Summary

Any attempt at summarizing the existing literature on collegiate attitude change must take into account the generally inconclusive and sometimes confusing, even contradictory, nature of the findings. Not only is the number of studies limited, but attitude measurement is an inherently difficult and complex field of study. The following tentative conclusions are offered with these difficulties in mind:

1. The student attitudes of certain subgroups in the college culture exhibiting different value orientations may be responsible for counteracting each other when considering the attitude change for this entire student population.
2. Initial courses appear to produce positive change, while courses in the final phases produce more negative attitude shifts.
3. The teaching methods utilized by the instructor, when compared under similar situations, are not a significant component of attitude modification.
4. When considering factors having affective consequences, course content should not necessarily be equated with text content. Controversial and provocative materials, however presented, tend to affect students' attitudes.
5. Students' agreement or disagreement with the instructor's opinions does not influence attitudes. However, an instructor's attitude toward his class and his course materials may be influential.

The Semantic Differential as a Measure of Student Attitude Change

Since the semantic differential is a relatively new form of attitude measurement, there is still much research needed to prove whether it is more useful than other kinds of attitude inventories. What has been done, however, indicates that when used appropriately it is at least as reliable and valid as

other attitudinal measures, and possesses some advantages over other methods of measuring attitude shift. The chief advantage in assessing attitude change is the differential's bipolar form, which lends itself to the measurement of small changes in direction as well as intensity. (Mehling, 1959-1960) The discussion which follows will be concerned with the available evidence pertaining to: a) a description of a semantic differential technique; b) its reliability and validity; and c) the evaluative dimension for use in measuring attitudes.

A description of the semantic differential technique

The semantic differential is composed of a series of concepts or ideas which are rated or judged by an individual on a set of bipolar adjectival scales. The concepts may vary with each situation and are usually originated by the researcher, instructor, or tester who is most familiar with the situation being evaluated. Scales representing the various dimensions of semantic space are chosen on the basis of how high they "load" on the particular dimension.[4] Selection of scales,

[4]Semantic space, as postulated by Osgood, Suci, and Tannebaum (1957) is a multidimensional region which is Euclidean in character. A concept is then seen as a point in this space which can be measured by a set of scales representing all of the linear dimensions. The dimensions emerge with impressive regularity after factor analysis. They are, in decreasing order of their magnitude and frequency of appearance, (1) the evaluative dimension, (2) the potency dimension, and (3) the activity dimension. Hence, the evaluative factor is usually the largest and first to be extracted. The activity is next and is seen to be one-half the magnitude of the evaluative. Potency, is, then, one-half the magnitude of activity. Any other factors that emerge follow this same pattern.

by the researcher, is usually made from the scale data found in Osgood, Suci, and Tannebaum (1957), or by using a differential that has already been tested in a similar situation. Brinton (1961) warns that the more concepts one uses the more generalized the scales need to be. However, an increasing number of investigators are concluding that all semantic differential data should be factor analyzed. Kane (1969) feels that, because the factor structure can be different even in the most similar of situations, factor analysis should be the first step in every data analysis. Clark and Kerrick (1967) differ from Kane's rationale by favoring a principle components analysis because of more appropriate scale weightings. Presly (1969) states that even analysis of semantic differential data should be done separately for each concept since the factor structure is not even the same across concepts.

Thus, since the dimensional composition of semantic space may vary from situation to situation and concept to concept, the semantic differential should be viewed more as a technique than a test.[5]

Reliability and validity

Osgood, Suci, and Tannebaum (1957) report high test-retest reliabilities on the order of .83 to .91. DiVesta and Dick (1966) have shown the semantic differential to be a

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[5]A technique is an approach to measuring that must be modified to fit a particular situation; a test is a relatively fixed set of items scored by a relatively fixed scoring system.

stable measure when used with children as young as those in the third grade. These two researchers report acceptable test-retest reliability results for children in grades three, five, and seven under immediate retest conditions. Poor reliability as reported by Marais (1967), however, is more the exception than the rule.

As is the case with most attitude instruments, the validity of the semantic differential is more difficult to assess than the reliability. Most investigators seem satisfied with its face validity as represented by Osgood, Suci, and Tannebaum (1957). Aside from strong evidence of face validity, there are also high correlational coefficients between the semantic differential and other attitude inventories (Hicks, 1967). Anderson (1967) tried to assess the stability and validity of semantic space when using an attitude measure other than the semantic differential and discovered that, although there were significant individual deviations in phases of the analysis, the results generally supported the semantic space theory.

The evaluative dimension and attitude measurement

Studies by Fishbein and Raven (1962) and Husek and Wittrock (1962) concur with the statement made by Osgood, Suci, and Tannebaum (1957, p. 190) that "it seems reasonable to identify attitude, as it is ordinarily conceived in both lay and scientific language, with the evaluative dimension of total semantic space."

Summary

All empirical evidence signifies that the semantic differential technique is as reliable and valid as other popular inventories used in measuring attitude. The fact that it can assess direction as well as intensity makes it very effective for this type of evaluation. Because the factor structure is not necessarily the same across concepts or in even similar situations, factor analysis should probably be the first step in treatment of the data. Analysis of differential data measuring attitude change reveals that a large evaluative factor usually emerges. Its composition, too, may vary across concepts and under different conditions.

METHODOLOGY

Procedure

Design

The subjects for this study were 391 Iowa State University students registered during winter quarter, 1968-1969, in five sections of Education 204, Foundations of American Education. Sections A and C were the control group; sections B, D, and E, comprised the experimental group. Students in the experimental group were taught by a different instructor than those in the control group. Students enrolled without knowing which instructor they would have, though a few students changed instructor during the first week of class.[6]

Instructors in both experimental and control classes depended heavily upon lectures, but encouraged participation in classroom discussions, within the limitations imposed by large classes (c. 80 in each section). Both instructors were enthusiastic about their teaching approaches and reading selections.

The control group used Percy Burrup, The Teacher and the Public School System, 2nd ed. (New York: Harper and Row, 1967). Summarized briefly, this text is a description of public education in the United States from its early origins and development up to the present day. The author portrays

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[6]Instructors teaching the course estimate that no more than two per cent changed instructors.

schools and teaching in a very favorable way, concluding that American education is basically healthy and sound:

> To our educational system we must give major credit for the American ideal--not yet fully realized, to be sure--of freedom of the individual with reasonable guarantee of equality of opportunity for all. Our rapid rise from colonial status to a position of world leadership in a century and a half is strong evidence of a superior educational system. The relatively rapid assimilation of so many diverse peoples and ideas into a nation with a common purpose--individual freedom--attests to the strength of our total educational effort. The highest standard of living, the greatest economic prosperity, the superiority of our scientific and technological achievements, the productivity of our industry, business, and agriculture, our generosity and spirit of helpfulness to countries and peoples who are downtrodden or underdeveloped--these and many other American characteristics have come because of a number of factors, not the least of which has been our system of education (p. 440).

In the experimental situation, there was no text. Instead, students read selected books and articles pointing out the ailments of the school system and society in general. The books were:

> Herbert Kohl, Thirty-Six Children (New York: The New American Library, Inc., 1968).--recounts the author's year of teaching sixth grade in Harlem, strongly indicting ghetto school conditions.
>
> John Hersey, The Child Buyer (New York: Bantam Books Inc., 1961).--satirizes American social-political, and educational attitudes describing the purchase of a ten-year-old male child genius to be used in experiments on behalf of national defense.
>
> John Holt, How Children Fail (New York: Pitman Publishing Corp., 1968).--advances the theories that school environments produce fear, boredom, and confusion in children, causing them to fall short of their capacity to learn and create. By the use of records and diaries which he kept while observing and teaching children, Holt analyzes the strategies children use to cope with the demands of an adult world; the effect of fear and

failure upon students; the distinction between real and apparent learning; and the ways in which schools fail to meet the needs of children.

Herb Snitzer, Living at Summerhill (New York: Collier Books, 1968).--describes a small, private school community in Leiston, England, where students make most of their own rules and where class attendance is not required.

Aldous Huxley, Island (New York: Bantam Books Inc., 1963).--advocates a fictional utopia called "Pala," where the most pressing difficulties facing contemporary man have been solved and thus, by inference, strongly criticizes existing social, political, religious, economic and educational institutions and attitudes.

The articles used in the experimental group were:

Hillel Black, "What Our Children Read," Saturday Evening Post, (October 7, 1967), pp. 27+.

Jim Deacove, "A Teacher's Journal from Kelwood, Manitoba," This Magazine is About Schools, (August, 1966), pp. 55-71.

"Discrimination Against Mexican-Americans," Phi Delta Kappan, (October, 1966), p. 86.

Norman Friedman, "The Schools and the Defeat of the Child: Some Meditations on Three Recent Views of the Plight of the Child in Our Culture," This Magazine is About Schools, (August, 1966), pp. 75-94.

David K. Gast, "Consumer Education and the Madison Avenue Morality," Phi Delta Kappan, (June, 1967), pp. 485-586+.

Merrill Harmin and Sidney B. Simon, "The Year the Schools Began Teaching the Telephone Directory," Harvard Educational Review, (Summer, 1965), pp. 125-130.

Alex Poinsett, "Ghetto Schools--An Educational Wasteland," Ebony, (August, 1967), pp. 52-57.

Robert Rosenthal, "Self-Fulfilling Prophecy," Psychology Today, (September, 1968), pp. 47-51.

Kenneth G. Slocum, "Bible vs. Evolution: Second Monkey Trial is Set for Tennessee," The Wall Street Journal, May 12, 1967.

"Robert Theobald Speaks Out on Student Power," Sooner, (January, 1968(, pp. 20-23+.

Lloyd P. Williams, "Orthodoxy and Scholarly Assumptions: Some Notes on Our Changing Intellectual Climate," Southwestern Philosophy of Education Society Proceedings, (1967), pp. 76-83.

The students in both groups were tested on the first day of classes and again with the same instrument during the last week of the winter quarter. Since neither instructor required attendance, some students were absent on the post test day.

The sample

The number of students pretested in the five sections at the beginning of the quarter was 391. Due to absences, normal attrition, failure to complete the differential successfully, and refusal to participate in the experiment, the number post tested was 312.[7] The final N sampling after matching identification numbers was 228, of which 97 constituted the control group and 131 comprised the experimental.

Both sample groups appeared similar in characteristics. Table 1 shows the frequency counts and percentages of the various class levels represented in the sampling. The majority of students in both groups were freshmen and sophomores with the class mean for each being at the sophomore level.

The age range for the population in the two groups was

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[7]Students were encouraged but not required to answer the semantic differential, since it was felt that forcing completion would bias their responses. 3 people asked not to participate.

"seventeen" to "over 30" with 20 years as the control mean age and 19.68 years as the experimental mean age. (See Table 2.)

Table 1. Frequency counts and percentages of class levels represented in the control and experimental groups

Class	Control Freq. counts	(%)	Experimental Freq. counts	(%)
1. Freshmen	18	(18.2)	20	(15.2)
2. Sophomores	43	(43.5)	70	(53.4)
3. Juniors	25	(25.2)	29	(22.0)
4. Seniors	10	(10.1)	10	(7.6)
5. Post graduate	1	(1.0)	1	(0.6)
6. Grad. student	2	(2.0)	1	(0.6)
7. Special student	0	(0.0)	1	(0.6)
TOTAL	99	(100%)	132	(100%)

Table 2. Ages of participants with frequency counts and percentages

Ages	Control Freq. counts	(%)	Experimental Freq. counts	(%)
1. 17	1	(1)	1	(1)
2. 18	11	(11.1)	19	(14)
3. 19	41	(41.5)	57	(43)
4. 20	25	(25.2)	35	(27)
5. 21	8	(8.1)	7	(5)
6. 22	4	(4)	5	(4)
7. 23	1	(1)	3	(2)
8. 24	1	(1)	0	(0)
9. 24-30	2	(2)	3	(2)
10. Over 30	5	(5)	2	(2)
TOTAL	99	(100%)	132	(100%)

Table 3 describes the major fields in which the subjects were enrolled. Although most areas appeared in the total sampling, the heaviest representation came from majors in Home Economics and Child Development-Elementary Education.

Table 3. Major fields of participants with frequency counts and percentages[a]

Majors	Control Freq. counts	Control (%)	Experimental Freq. counts	Experimental (%)
1. Child Devel.-Elem. Educ.	21	(21.2)	28	(21.2)
2. Agric.-Vet. Med.	13	(13.1)	10	(7.6)
3. Nat. Sciences and Math.	7	(7.1)	13	(9.9)
4. Life Sciences	2	(2.02)	5	(3.8)
5. Humanities	17	(17.2)	19	(14.4)
6. Social Sciences	4	(4.05)	13	(9.9)
7. Engineering	2	(2.02)	1	(0.6)
8. Home Ec.	25	(25.2)	33	(25.0)
9. Other	7	(7.1)	10	(7.6)
10. Undecided	1	(1.01)	0	(0.0)
TOTAL	99	(100%)	132	(100%)

[a]Discrepancies between the final N sampling and the frequency count totals in Tables 1, 2, and 3 were due to errors in matching students' identification numbers.

The most outstanding curriculum difference between the two group enrollments is seen in Agriculture-Veterinary Medicine and Social Sciences. The percentages and the differences, however, are relatively small. In general, enrollments are proportionally similar.

Measurement Used

Description

The instrument itself consisted of an evaluation form of the semantic differential. The following fourteen concepts comprised the heart of the instrument:

1. School Integration
2. Punctuality
3. American Negro
4. Public School Teachers
5. Children
6. Human Nature
7. Interracial Dating
8. Absolute Truth
9. Church
10. Discipline
11. Grades
12. Racial Prejudice
13. Poor People
14. Corporal Punishment

Students rated each of these concepts on a series of nineteen bipolar, adjectival scales. These scales are all identified with the evaluative dimension for semantic space. (Osgood, Suci, and Tannebaum, 1957). The scales were rotated for every concept to prevent a response order bias, and nine of the scales were alternated in polarity direction so that there would be no formation of position preference. The following scales were selected:

1. good-bad
2. beautiful-ugly
3. successful-unsuccessful
4. positive-negative
5. clean-dirty
6. valuable-worthless
7. objective-subjective
8. pleasant-unpleasant
9. strong-weak
10. nice-awful
11. sensitive-insensitive
12. happy-sad
13. hardworking-lazy
14. fragrant-foul
15. interesting-boring
16. sophisticated-naive
17. honest-dishonest
18. fair-unfair
19. sacred-profane

Students received both written and oral directions for completing the semantic differential (Appendix A).

Assessment

On the basis of the KR-20 formula, reliabilities were estimated for each of the concepts in both pre and post test forms. Results, as seen in Table 4, reveal high reliabilities--0.70 to 0.94--for all but two of the concepts. The post test reliabilities for "School Integration" and "Poor People" were 0.68 and 0.43 respectively, and since these were below 0.70 the concepts were discarded. For the remaining

Table 4. Test reliabilities for semantic differential concepts

	Concept	Reliabilities pretest	post test
1.	School Integration	0.8857	0.6842
2.	Punctuality	0.8507	0.8222
3.	American Negro	0.9043	0.7281
4.	Public School Teachers	0.8958	0.8279
5.	Children	0.8565	0.8293
6.	Human Nature	0.8989	0.8111
7.	Interracial Dating	0.9362	0.7526
8.	Absolute Truth	0.9097	0.8900
9.	Church	0.9354	0.7926
10.	Discipline	0.8619	0.7002
11.	Grades	0.9092	0.7206
12.	Racial Prejudice	0.8873	0.7726
13.	Poor People	0.8691	0.4334
14.	Corporal Punishment	0.8938	0.8060

twelve concepts a correlation analysis was conducted on each scale item to determine the usefulness of each one of the nineteen.[8] Analysis of the resulting twenty-four matrixes revealed that all nineteen items were contributing to the measurement of every one of the concepts (Appendix B). The revised differential then consisted of twelve concepts, each of which had been rated on a series of nineteen evaluative scales.

Statistical Treatment

Pretest and post test scale scores with means and standard deviations were obtained for all subjects on all twelve concepts (Appendix C). The t tests were then computed to determine the significance of the differences in the scale score means and variances from pre testing to post testing.[9]

Frequency county, percentages, means and standard deviations were also obtained on both the pre and post tests in regard to the students' commitment to teaching. A computation of t tests determined if significant changes had occurred.

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[8]It was felt that for the purposes of this study, a factor analysis was not necessary. Therefore, only correlation matrixes were examined.

[9]The formula used in testing for two tailed t values was:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}\right)}}.$$

Interpretation of attitude scores

For purposes of scoring, all the positive poles on the nineteen scales were placed on the extreme left at the zero point and all the negative poles on the extreme right at eight. This gives a possible score range of 0-152. Using this system, any score above the mean (76) indicates preponderance of negative feeling while any score below the mean indicates a balance of positive feelings. Table 5 provides a guide for interpreting the attitude scale score results reported in this paper.

Table 5. Interpretations of mean scores for attitude scales

M score	Interpretation
0-18	Extremely positive (favorable)
19-37	Quite positive (favorable)
38-56	Moderately positive (favorable)
57-75	Mildly positive (favorable)
76	Neutral
77-95	Mildly negative (unfavorable)
96-114	Moderately negative (unfavorable)
115-133	Quite negative (unfavorable)
134-152	Extremely negative (unfavorable)

Interpretation of teaching commitment scores

This analysis of scores followed a similar pattern to those of the attitude interpretation except in the following ways: the extreme left position at zero was the negative pole and the extreme right position at eight was the positive pole; the score range was 0-9 with 4 as the neutral score.

Table 6 below furnishes an approach to interpreting mean scores for students' commitments to teaching.

Table 6. Interpretation of mean scores for the commitment scale

M score	Interpretation
0-0.99	Extremely uncommitted (negative)
1-1.99	Quite uncommitted (negative)
2-2.99	Moderately uncommitted (negative)
3-3.99	Mildly uncommitted (negative)
4	Neutral
4.01-5	Mildly committed (positive)
5.01-6	Moderately committed (positive)
6.01-7	Quite committed (positive)
7.01-8	Extremely committed (positive)

RESULTS

The following results were obtained for the eight null hypotheses adopted (p. 4). Significant changes for each hypothesis are presented in increasing order of *t* value magnitudes. (See Appendix C)

Hypotheses Related to Attitude Change

The first null hypothesis was that there are no significant differences in the attitudes of students in the control and experimental groups before taking Education 204. A comparison of control and experimental group scores on eleven of the twelve concepts revealed no significant differences; however, the concept of "interracial dating" did show marked differences. Both groups were mildly negative in their reactions, but the control group (M = 92) was significantly more negative (.05 level) than the experimental (M = 86). Standard deviations were 19 and 18 respectively. The computed *t* value, was 2.27 (see Table 7). The null hypothesis, therefore, was rejected for this one concept.

The second null hypothesis was that there are no significant differences between the attitudes of students in the control group before and after taking Education 204. A comparison of pre and post test results indicated that students changed significantly on only one concept, that of "discipline."

Table 7. The t values for pretest control and experimental comparisons[a]

Scale	Significant values for N of 110						Insignificant values
	.001 level	.005 level	.01 level	.025 level	.05 level	.10 level	
Table t values	3.390	2.871	2.625	2.276	1.982	1.661	
Punctuality							.67
American Negro						1.92	
Public School Teachers							.82
Children							.73
Human Nature							.51
Interracial Dating					2.270		
Absolute Truth							.48
Church							.14
Discipline							.73
Grades							.42
Racial Prejudice							.67
Corporal Punishment							.049

[a]T table values are from Snedecor and Cochran (1967, p. 549). T values for .10 level of significance are included but only values beyond the .05 level are treated as significant in the text.

At the beginning of the course, they had felt mildly favorable toward this concept (M = 70.85), but at the end they were neutral (M = 76). Pre and post test standard deviations were identical (14.61). A test for *t* yielded 2.71 which was significant beyond the .01 level (see Table 8). The null hypothesis was rejected for this concept.

The third null hypothesis was that there are no significant differences between the attitudes of students in the experimental group before and after taking Education 204. A comparison of pre and post test results showed that students' attitudes had changed toward six concepts. (See Table 9). For the concept "punctuality" students were mildly positive in their responses before and after taking the course. But, they were significantly less positive on the post test (M = 64.94) than on the pre test (M = 60.07). The standard deviation for the pre test was 15.28, and for the post test it was 19.19. The computed *t* value of 2.44 was significant beyond the .025 level.

For the concept "absolute truth" the pre and post means stayed within the mildly positive range. However, the post mean of 74.53 indicated a significantly less positive attitude than the pre test mean of 67.32. The standard deviations were 21.55 on the pre test and 22.16 for the post test. The *t* value of 2.60 was significant beyond the .025 level.

With respect to "grades" students' responses were mildly

Table 8. The t values for pretest and post test control comparisons[a]

Scale	Significant values for N of 90						Insignificant values
	.001 level	.005 level	.01 level	.025 level	.05 level	.10 level	
Table t values	3.402	2.878	2.631	2.279	1.986	1.661	
Punctuality							.54
American Negro							1.055
Public School Teachers							.40
Children							1.405
Human Nature							.041
Interracial Dating							.51
Absolute Truth							.96
Church							1.35
Discipline			2.71				
Grades							.61
Racial Prejudice							.33
Corporal Punishment							.94

[a] Snedecor and Cochran (1967, p. 549).

Table 9. The *t* values for pretest and post test experimental comparisons[a]

Scale	Significant values for N of 130						Insignificant values
	.001 level	.005 level	.01 level	.025 level	.05 level	.10 level	
Table *t* values	3.373	2.860	2.617	2.270	1.980	1.658	
Punctuality				2.44			
American Negro							.87
Public School Teachers	5.8						
Children							.14
Human Nature						1.90	
Interracial Dating							.67
Absolute Truth				2.60			
Church	4.68						
Discipline	6.35						
Grades			2.80				
Racial Prejudice							.048
Corporal Punishment							.80

[a] Snedecor and Cochran (1967, p. 549).

unfavorable on both forms of the test. The mean scores were significantly different, however, at the .01 level (t = 2.80). The post test mean was 96.21 and was more unfavorable than the pretest mean of 90.44. The standard deviations were 17.07 and 16.41 respectively.

Changes were significant beyond the .001 level for "church," (t = 4.68), "public school teachers," (t = 5.80), and "discipline," (t = 6.35). Student attitudes toward "church" were in the mildly favorable range before and after taking the Education 204 although the post test mean of 69.47 showed that they were significantly less favorable than the pretest mean of 57.47. The standard deviations for the pre-test and post test in order were 22.42 and 21.88. Attitudes toward "public school teachers" were mildly positive before taking the course (M = 66.68) and mildly negative afterward (M = 80.64). The standard deviations changes from 17.76 to 20.30. Students were also mildly positive toward "discipline" at the beginning of the experience (M = 72.29) and mildly negative at the end (M = 86.44). Standard deviations were 16.26 on the pretest and 19.49 on the post test.

The third null hypothesis was rejected for these six concepts.

The fourth null hypothesis was that there are no significant differences between the attitudes of students in the control and experimental groups after taking Education 204

(See Table 10). A comparison of mean scores for the two groups revealed no significant changes for seven of the twelve concepts. For the remaining five, significant changes did occur.

Both types of classes were mildly unfavorable toward "interracial dating," but the control classes were more unfavorable (M = 90.92 and σ = 22.12) than the experimental classes (M = 85.99 and σ = 18.41). The t value of 2.01 was significant beyond the .05 level.

With respect to "grades" the control group was mildly negative (M = 90.99 and σ = 17.10) while the experimental group was moderately negative (M = 96.24 and σ = 16.41). The t value of 2.50 was significant beyond the .025 level.

On the concept "church" both groups were mildly favorable, although the experimental group showed less favorable attitudes (M = 69.47) than the control (M = 61.55). The standard deviations were almost the same: the control was 21.18 and the experimental was 21.88. The t test value was 2.74 and significant beyond the .01 level.

For "discipline" the control classes were neutral (M = 76.26), whereas the experimental group felt mildly unfavorable (M = 86.44). Control and experimental standard deviations were 16.90 and 19.49. The difference was significant beyond the .001 level as evidenced by a t value of 4.55.

For "public school teachers" the control group was mildly

Table 10. The *t* values for post test control and experimental comparisons[a]

Scale	Significant values for N of 114						Insignificant values
	.001 level	.005 level	.01 level	.025 level	.05 level	.10 level	
Table *t* values	3.390	2.871	2.625	2.276	1.982	1.661	
Punctuality							.23
American Negro							1.35
Public School Teachers	8.01						
Children							.94
Human Nature							1.54
Interracial Dating					2.01		
Absolute Truth						1.92	
Church			2.74				
Discipline	4.55						
Grades				2.50			
Racial Prejudice							1.1
Corporal Punishment							.24

[a]Snedecor and Cochran (1967, p. 549).

positive (M = 63.97), but the experimental group was mildly negative (m = 80.64). Standard deviations were 16.33 and 20.30 respectively. A t test yielded 8.01 which was significant beyong the .001 level.

The fourth null hypothesis was rejected for these concepts.

Hypotheses Related to Teaching Commitment

The fifth null hypothesis was that there are no significant differences in commitment to teaching between students in the control and experimental groups before taking the course (See Table 11). A comparison of mean scores for the two groups showed that they were in the moderately committed range. The control mean was 5.32 with a standard deviation of 1.79, and the experimental mean was 5.77 with a standard deviation of 1.75. The computed t value was 1.96 but not significant.[10] The null hypothesis, therefore, was not rejected.

Table 11. The t values for comparisons of students' commitments to teaching[a]

	Pretest, control	Post test, experimental
Pretest, experimental	T = 1.96	T = 2.00 (.05 level)
Post test, control	T = .04	T = .00

[a]Snedecor and Cochran (1967, p. 549).

[10]The table t value is 1.982 for the .05 level. Snedecor and Cochran (1967, p. 549).

The sixth null hypothesis was that students in the control group show no significant changes in their commitment to teaching. Pre and post test scores showed that both means (5.32 and 5.31 respectively) were almost identical and fell within the moderately committed range. The pretest standard deviation was 1.79, and for the post test it was 1.96. The computed t value of .04 was not significant, and the null hypothesis was not rejected.

The seventh null hypothesis was that students in the experimental group show no significant changes in their commitments to teaching. Analysis of mean scores before and after taking Education 204 showed that students were moderately committed both times. However, they were less committed on the post test ($\bar{X}$ = 5.31 and σ = 1.85) than on the pretest ($\bar{X}$ = 5.77 and σ = 1.75). This difference was significant beyond the .05 level as evidenced by a t value of 2.00. The null hypothesis was rejected.

The eighth null hypothesis was that there are no significant differences in commitment to teaching between students in the control and experimental groups after taking the course. Post test mean scores for both groups were identical ($\bar{X}$ = 5.31). The standard deviations were 1.96 for the control and 1.85 in the experimental. All students at the end of the course were moderately committed and there was no significant difference (t = .0). The null hypothesis was not rejected.

DISCUSSION

This investigation set out to (1) determine the influence of traditional foundations content on students' attitudes, (2) determine the influence of foundations content critical of schools and society on students' attitudes, and (3) evaluate the impact of both types of content on commitment to teaching as a career. This section of the study contains a discussion of findings related to these three major problems and includes an analysis of the patterns of attitude change, a discussion of the findings in this study which relate to some of those reported in other attitude change investigations, and, finally, an assessment of implications of this study for future research.

Traditional Content and Attitude Change

At the beginning of the course, the control classes were favorably disposed toward seven of the twelve concepts: church, punctuality, public school teachers, absolute truth, children, discipline, and human nature.[11] Toward the remaining five concepts--American Negro, grades, interracial dating, corporal punishment, and racial prejudice--the control classes reacted negatively.[12] The post test showed essentially the

[11]Ranked from highest to lowest degree of approval. See Appendix C.

[12]Ranked from lowest to highest degree of disapproval. See Appendix C.

same responses for eleven of the twelve concepts--an indication that little general change had occurred. The one statistically significant change which did occur--a shift from mildly favorable to neutral on the concept of discipline--is difficult to explain in terms of course content, since it was in the opposite direction from the bias of both instructor and text.[13] From the data available, it is not possible to determine whether the change was related in any way to course content. In view of the change on this item and the general lack of change in all other areas measured, it is at least possible that the control group change on discipline should be attributed to experiences outside of those in the foundations course.

The question which needs to be answered is whether the findings in this study support the contentions of educational foundations critics that such courses in their usual form contribute little to the growth and development of students. The answer is yes. Two strong qualifications to this conclusion, however, must be noted: 1) It is possible that the twelve concepts used to not fully reflect the areas impinged upon by the course; and 2) the method of analysis considered

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[13]The control group instructor rated the concept 65; the control group mean was 70.85 initially and 76.26 after the course. The text book philosophy on discipline is stated as follows: "The attitude of adults toward children and youth has changed in the last half century. This 'softening' had had its effect in the school where discipline has been relaxed and perhaps too much permissiveness has been tolerated." (pp. 225-26)

only the entire group and may not adequately reflect the degree of individual change within the group--it is theoretically possible for every individual in the group to have changed significantly but for these changes not to be reflected in the means or standard deviations if each positive change was counterbalanced by an equal negative change.

The Experimental Approach and Attitude Change

On the pretest students in the experimental classes showed quite similar, often virtually identical, reactions to those of the control group students except on the concepts of "American Negro" and "interracial dating". Experimental group students reacted more positively than control students on both concepts, though only the "dating" concept differences were significant at .05.[14] Both groups were still well within the "mildly negative" spectrum of the scale.

The experimental classes changes significantly on one-half of the twelve concepts, with the greatest degree of change occurring on "church," "public school teachers," and "discipline." Significant changes of smaller magnitude occurred on "grades," "punctuality," and "absolute truth." Even more interesting are the concepts on which no change or

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[14]Control and experimental means on American Negro were 85.45 and 80.82 respectively and on interracial dating were 91.72 and 85.98. The t value for experimental group was high (1.90) but not significant at the .05 level.

statistically insignificant changes took place: "American Negro," "interracial dating," "children," "human nature," "racial prejudice," and "corporal punishment." The reasons for relatively large changes on "church" and the lack of change on "American Negro" or "human nature" are not entirely clear from an examination of the readings materials for the course, since all three concepts were treated. Unlike the control group change which seemed in an opposite direction from course content, all the changes recorded in the experimental group were in the directions advocated by course content. Probably the greatest changes occurred in areas where the positions advocated by course content differed most from the expectations, beliefs, and opinions which students held at the beginning of the course--i.e., in areas where content appeared most controversial to students. This explanation is plausible for all concepts except "American Negro" and "interracial dating." Students remained negative on both items, even though course content (and instructor bias) was rather strongly positive. In point of fact, students remained negative on these two concepts in spite of their own strong disapproval of "racial prejudice." This may mean, as Carlson (1956) suggests, that racial prejudice is very difficult to change through course content.

Whatever might be the correct explanations for changes or lack of changes on specific concepts, students in the

experimental group clearly changed more than did control students. This fact suggests that literature critical of schools, teaching, and American society does have greater affective impact than standard foundations text material. That students in neither group changed on the concept "American Negro" suggests that course content per se may not change some deeply rooted attitudes.

Commitment to Teaching as a Career

One of the frequently advanced arguments for making a foundations course the first one taken in a teacher preparation sequence is that it will help students decide whether or not to continue toward a teaching career. This study found no appreciable change in the classes studying tradition content but did reveal a small but significant (.05) negative change in the group using critical literature. Both groups showed "moderate" commitment at the beginning and at the end of the course, but the experimental students, who had been slightly more committed initially, finished no more committed than were control students. While this seems to indicate that the experimental approach was more decisive in producing change, a note of caution is in order. Mean scores, which were used in calculating t values, changed more in the experimental group (Experimental: pre = 5.77; post = 5.31; Control: pre = 5.32; post = 5.31), standard deviations indicate a possibly greater polarization taking place within the control

group (Control: pre = 1.79; post = 1.96; Experimental: pre = 1.85; post = 1.75). A different form of data analysis--one treating individual rather than group change would be necessary to verify the real effectiveness of foundations courses in producing changes in attitude toward teaching as a career.

Patterns of Attitude Change

It is interesting that of the twenty-six changes treated in this study (including commitment to teaching) twenty were in a negative direction and that all eight of the statistically significant changes were negative.[15] In view of the course content, the preponderance of negative change in the experimental group is not surprising, but is somewhat surprising in the control classes. It is possible that there was enough crossfeed between the two groups to have permitted some spillover from the experimental to the control group. Although this study assumed that such interaction would not occur, there is some informal (and scientifically unverified) evidence that at least a few of the control students did read some of the materials used in the experimental group. Since the reasons for the generally negative changes cannot be

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[15] Of the thirteen control changes, four were positive; of the 13 experimental changes, only two were positive. The only two concepts on which both experimental and control groups became more positive were American Negro and interracial dating. The control group also became slightly more positive on children and public school teachers. None of the positive changes, however, was significant at the .05 level.

isolated from the data available, generalizations about the meaning of the negative directional changes would be very tenuous at best.

Relationship to Other Attitude Change Investigations

Six of the studies cited in the Review of Literature are related to some of the findings in the present research. For two of the studies, support is given, and for the remaining four the results are inconclusive.

First of all, Hoover and Schutz (1968) discovered that students made significant positive gains toward the concept "Negro" and a significant negative increase toward "fixed absolute facts." Experimental students in the present study became more positive, although not significantly positive, in their attitudes toward "American Negro," and more significantly negative toward "absolute truth." Also, students in the study by Brim (1966) pinpointed eight activities which they felt were significant in producing attitudinal shifts after taking a course. The most important one supported by this study, was the fact that readings of a controversial nature were felt to affect attitude change.

In the second case, four studies in the literature attempted to evaluate the affective influence of instructors' opinions on their students' resulting attitudes. However, no clear cut conclusions can be drawn. Brim (1966) and Dixon

(1967) found a positive relationship to exist, while Ofchus and Gnagey (1960) and Costin (1961) discovered that students' perceptions of the instructors' attitudes were not related to student attitude shifts. This last area was not a central question in the present study, but both instructors did complete the differential, and no patterns of change emerged in the direction of instructors' biases. In the control group, the only significant change (for "discipline") was away from instructor bias, and for the three concepts which had high but not significant t values, ("children," "church," and "American Negro.") the class moved away from the instructors' view on two ("children" and "church") and toward his opinion on one ("American Negro"). In this experimental situation, the group moved away from the instructor's attitudes on "discipline," toward his views on "punctuality," "absolute truth," and "church," and finally, on "public school teachers" and "grades" the instructor's ratings were between the group's mean scores. For the "American Negro" concept (high but not significant at .05 level) the class moved away from the instructor's opinion. Neither class moved toward the instructor's views on commitments to teaching. Therefore, these findings do not actually support the studies of Ofchus and Gnagey (1960) and Costin (1961), nor do they refute the studies which point to a more positive relationship which exists between instructors' biases and student attitude changes.

Implications for Future Research

In view of this study, the following suggestions are made.

1. If this semantic differential is used again in a similar investigation, a factor analysis should be conducted to give a clearer picture of which scale items are most relevant to specific concepts. Also, this type of analysis would probably isolate factors in addition to a large evaluative one.
2. Since the extreme positions on the nine point scale were seldom used, it would be desirable to employ the seven point scale suggested by Osgood, Suci, and Tannenbaum (1957). This way the students would not tend to avoid extreme rating positions, and interpretation of the results might appear to be more meaningful.
3. It would be beneficial to relate the types of attitudinal changes to some of the background information that has been gathered for each student. These would include such variables as sex, class level, major, and religious background.
4. Since the instructors' personalities are always a difficult variable to control it might be more beneficial to have the same instructor teach both types of course approaches, assuming, of course, he could remain enthusiastic in both situations.
5. Using the subcultures defined and identified by Gottlieb and Hodgkin (1963) it would be valuable to ascertain if these are operating in a situation similar to the present study and

if they generate a counteracting effect when treating attitude changes of the population as a whole.

6. It would be interesting to compare the students' attitude changes, in both types of courses, to their perception of instructors' attitudes.

7. Finally, an analysis and comparison of pre and post test results on individual scores as well as a group mean would give a more accurate picture of the specific changes taking place.

SUMMARY

The aim of the present study was to investigate the affective influence of the traditional textbook approach on the attitudes of students enrolled in Education 204, and to see if an alteration of course content away from the textbook approach to literature critical of schools would have any impact on the attitudes of these students. Another major concern was to evaluate students' attitudes toward teaching as a career in classes using both of these approaches.

The changes were measured by an evaluative form of the semantic differential which in the end consisted of twelve philosophical, sociological and educational concepts that were indivicually rated on a series of nine point bipolar adjectival scales.

This differential was administered in pre and post test form to all sections of Education 204 during the 1968-1969 winter quarter at Iowa State University. Final sampling was 228. Of this, 97 students in two sections of the course were taught under the traditional textbook approach by one instructor, and 131 students in the remaining three sections were taught by another instructor. Here, they were exposed to a less traditional approach where controversial and critical reading materials were used. The former situation served as the control group and the latter became the experimental group.

Pre and post test scale scores with means and standard

deviations were obtained for all subjects on all 12 concepts. Further, t tests were computed for all scale scores, and the following significant changes resulted:

1. Pretest comparisons for the control and experimental groups revealed that they differed significantly (.05 level) with respect to only one concept--interracial dating. There the control was more negative.

2. The control group showed only one significant change (.01 level)--toward the concept of discipline -after taking the course as compared to before. Change was from positive to neutral.

3. In a comparison of pre and post test scores, the experimental group exhibited significant changes (from .025 to beyond .001 level) for six of the twelve concepts--punctuality, absolute truth, grades, church, public school teachers, and discipline--after taking the course. All changes were in the negative direction and all the six except church were more negative than positive after the course.

4. In post test comparisons, the control group maintained a significantly more negative attitude (.05 level) than the experimental group toward the concept "interracial dating." In addition to this, other post scores revealed significant differences for the concepts "grades," (.025 level), "church," (.001 level), "discipline," (.001 level), and "public school teachers," (.001 level). In these cases the experimental

group was more negative than the control.

5. T tests were conducted for both groups regarding changes in the students' commitments to teaching before and after taking Education 204. Comparisons yielded only one significant difference. This was between pre and post testings of the experimental group. Here, the experimental students changed to a less committed attitude toward teaching as a career. For pretest comparisons, the control was less committed than the experimental. This t value was very high but not significant. The control group maintained a "moderate" commitment in both testing situations.

The conclusion from these findings is that alteration of course content away from textbook approach toward literature critical of schools produced more attitudinal changes in students than did the textbook approach. The less traditional approach also produced more modification in the students' attitudes toward teaching as a career.

The following conclusions found in the review of literature are supported by this study: (1) readings of a controversial nature tend to produce attitude change; (2) attitudes related to deeply held student prejudices are not altered by controversial readings; (3) students do not necessarily change toward the positions held by instructors.

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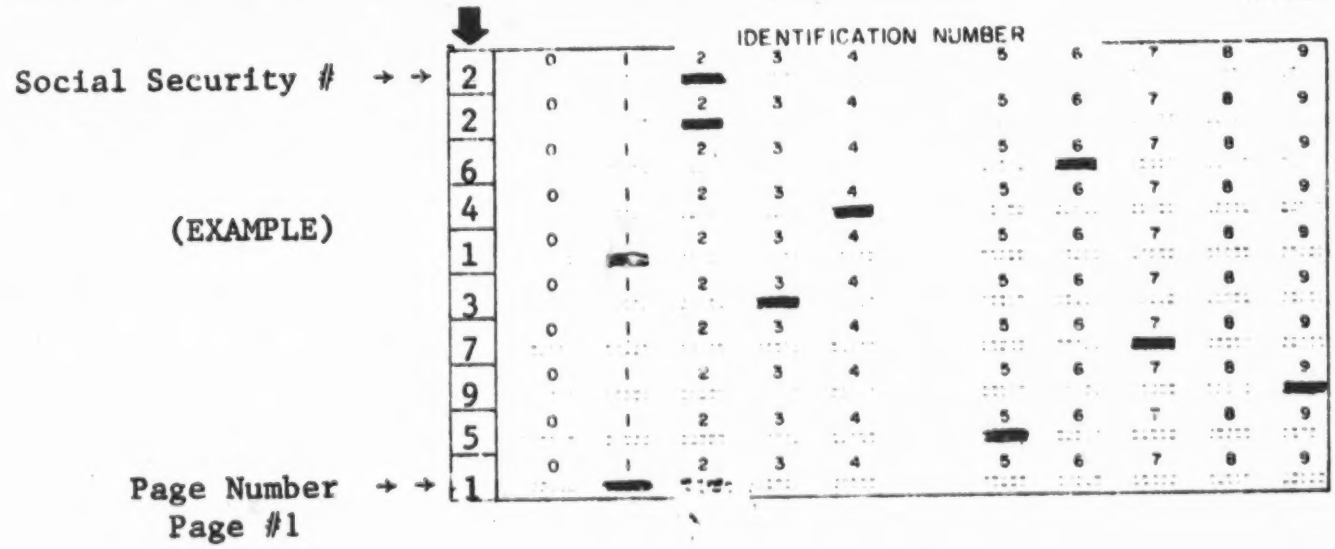
APPENDIX A

Your cooperation is requested in helping us measure what certain concepts mean to various people. Your responses will have absolutely no bearing on your grade in this course.

Please supply the following information on your answer sheet, using a number 2 pencil. Write you social security number under the red arrow in the section labeled IDENTIFICATION NUMBER beginning in the first blank and writing downward. Then code your number in the space provided for this purpose at the right.

When you have finished coding in your social security number, one space will remain. In that space code the page number. Mark "1" for page one, "2" for page two etc. There will be <u>four</u> pages of answer sheets altogether.



1. In the space provided under number 1, please code in the following information. In which general major area do you anticipate receiving your degree? 0 = CD-El. Ed; 1 = agriculture, including Vet. Med; 2 = natural sciences, including mathematics; 3 = life sciences; 4 = humanities, including music, English, speech, art, languages; 5 = social sciences; 6 = engineering; 7 = home economics; 8 = areas not related to the foregoing; 9 = undecided.

2. Please code in your section: 0 = Section A; 1 = Section B; 2 = Section C; 3 = Section D; 4 = Section E.

3. Code in your age: 0 = 17; 1 = 18; 2 = 19; 3 = 20; 4 = 21; 5 = 22; 6 = 23; 7 = 24; 8 = 25-30; 9 = over 30.

4. Code in your student clasification: 1 = Fr; 2 = Soph; 3 = Jr; 4 = Sr; 5 = Post-grad; 6 = Grad; 7 = Spec. student.

5. Under items 5 and 6 code in your religions background based on the following groups:

Item 5	Item 6
0 Agnostic	0 Latter Day Saints
1 Atheist	1 Lutheran
2 Baptist (Northern)	2 Methodist
3 Baptist (other than Northern)	3 Pentacostal
4 Christian Science	4 Presbyterian
5 Congregational	5 Roman Catholic
6 Disciples of Christ	6 Seventh Day Adventist
7 Episcopal	7 Unitarian
8 Evangelical Free Church	8 Jewish
9 Friends	9 Other

7. If you are still a communicant in the church which you indicated above, but do not attend very often, mark a "0". If you are still a communicant and you attend regularly, mark "1". If you are now a communicant in some church other than the one you indicated in items 5 and 6 but you do not attend regularly mark a "2". If you are now a communicant in some church other than the one which you indicated above, and you attend regularly mark a "3". If you are not now a communicant in any church, mark "4".

8. By coding in one of the spaces provided under item 8, rate yourself from 0 through 8 on the following question:

   How would you rate your own religious beliefs as compared with those of most other Americans who are members of your own church?

0	1	2	3	4	5	6	7	8
much more conservative		more conservative		about the same		more liberal		much more liberal

9. By coding in one of the spaces provided under number 9, rate yourself on the following question:

   Do you feel you are religiously more conservative, more liberal or about the same as most other Americans?

0	1	2	3	4	5	6	7	8
much more conservative		more conservative		about the same		more liberal		much more liberal

10. In the space provided under item 10, rate your present commitment to teaching as a career.

0	1	2	3	4	5	6	7	8
very definitely not committed		moderately uncommitted		neutral		moderately committed		very definitely committed

11. Using the following code, estimate how long you have had the present committment.
    0 = under 1 month; 1 = 1-3 months; 2 = 3-6 months; 3 = 6-12 months;
    4 = 1-2 years; 5 = 2-4 years; 6 = 4-6 years; 7 = since childhood.

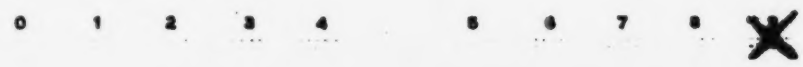
DIRECTIONS

On each page of the booklet, you will find a different concept to be judged. You are to rate the concept on each of 19 scales in order by selecting a number between 0 and 8 (inclusive) on the scale. The direction on the scale and the degree of the characteristic of the concept you are judging.

Here is a sample concept to be judged and a sample scale to be used:

CONCEPT: DRUGS

beneficial 0 1 2 3 4 5 6 7 8 harmful



If you feel that drugs are <u>much more beneficial</u> than harmful you would choose a rating of 0. If you feel that drugs are <u>considerably more beneficial</u> than harmful you would mark 1; if <u>moderately more beneficial</u> than harmful a 2; if only <u>slightly more beneficial</u> than harmful, a 3.

If you feel neutral on the concept, or if you feel the "beneficial-harmful" scale does not apply to the concept drugs, you would mark a 4. IMPORTANT: Please keep in mind that you will not be using the space marked "9" on your answer sheet.

If you feel that drugs are <u>only slightly more harmful</u> than benficial, you would mark space 5; if <u>moderately more harmful</u> than beneficial, you would mark 6; if <u>considerably more harmful</u> than beneficial you would mark 7; if <u>much more harmful</u> than beneficial you would mark 8.

PLEASE MAKE YOUR JUDGMENTS ON THE BASIS OF WHAT THESE CONCEPTS MEAN TO YOU!

IMPORTANT

1. Be sure that you respond on every scale for every concept - DO NOT OMIT ANY!

2. Never give more than <u>one</u> rating to each scale.

3. Work quickly, spending on the average no more than 5 to 10 seconds on each scale.

<u>Make each item a separate and independent judgment</u>. Do not try to remember how you rated similar items earlier in the test. Do not worry or puzzle over individual items. It is your first impressions--the immediate "feelings" about an item--that we want; however, do work carefully because we want your true impressions.

CONCEPT: SCHOOL INTEGRATION

12.	bad	0	1	2	3	4	5	6	7	8	good
13.	beautiful	0	1	2	3	4	5	6	7	8	ugly
14.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
15.	positive	0	1	2	3	4	5	6	7	8	negative
16.	dirty	0	1	2	3	4	5	6	7	8	clean
17.	valuable	0	1	2	3	4	5	6	7	8	worthless
18.	objective	0	1	2	3	4	5	6	7	8	subjective
19.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
20.	weak	0	1	2	3	4	5	6	7	8	strong
21.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
22.	sad	0	1	2	3	4	5	6	7	8	happy
23.	sacred	0	1	2	3	4	5	6	7	8	profane
24.	hardworking	0	1	2	3	4	5	6	7	8	lazy
25.	awful	0	1	2	3	4	5	6	7	8	nice
26.	fragrant	0	1	2	3	4	5	6	7	8	foul
27.	boring	0	1	2	3	4	5	6	7	8	interesting
28.	sophisticated	0	1	2	3	4	5	6	7	8	naive
29.	dishonest	0	1	2	3	4	5	6	7	8	honest
30.	unfair	0	1	2	3	4	5	6	7	8	fair

CONCEPT: PUNCTUALITY

31.	weak	0	1	2	3	4	5	6	7	8	strong
32.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
33.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
34.	sad	0	1	2	3	4	5	6	7	8	happy
35.	sacred	0	1	2	3	4	5	6	7	8	profane
36.	objective	0	1	2	3	4	5	6	7	8	subjective
37.	hardworking	0	1	2	3	4	5	6	7	8	lazy
38.	valuable	0	1	2	3	4	5	6	7	8	worthless
39.	awful	0	1	2	3	4	5	6	7	8	nice
40.	dirty	0	1	2	3	4	5	6	7	8	clean
41.	fragrant	0	1	2	3	4	5	6	7	8	foul
42.	positive	0	1	2	3	4	5	6	7	8	negative
43.	boring	0	1	2	3	4	5	6	7	8	interesting
44.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
45.	sophisticated	0	1	2	3	4	5	6	7	8	naive
46.	beautiful	0	1	2	3	4	5	6	7	8	ugly
47.	dishonest	0	1	2	3	4	5	6	7	8	honest
48.	bad	0	1	2	3	4	5	6	7	8	good
49.	unfair	0	1	2	3	4	5	6	7	8	fair

CONCEPT: AMERICAN NEGRO

50.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
51.	sad	0	1	2	3	4	5	6	7	8	happy
52.	sacred	0	1	2	3	4	5	6	7	8	profane
53.	hardworking	0	1	2	3	4	5	6	7	8	lazy
54.	fragrant	0	1	2	3	4	5	6	7	8	foul
55.	boring	0	1	2	3	4	5	6	7	8	interesting
56.	sophisticated	0	1	2	3	4	5	6	7	8	naive
57.	dishonest	0	1	2	3	4	5	6	7	8	honest
58.	unfair	0	1	2	3	4	5	6	7	8	fair
59.	bad	0	1	2	3	4	5	6	7	8	good
60.	beautiful	0	1	2	3	4	5	6	7	8	ugly
61.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
62.	positive	0	1	2	3	4	5	6	7	8	negative
63.	dirty	0	1	2	3	4	5	6	7	8	clean
64.	valuable	0	1	2	3	4	5	6	7	8	worthless
65.	objective	0	1	2	3	4	5	6	7	8	subjective
66.	awful	0	1	2	3	4	5	6	7	8	nice
67.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
68.	weak	0	1	2	3	4	5	6	7	8	strong

CONCEPT: PUBLIC SCHOOL TEACHERS

69.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
70.	unfair	0	1	2	3	4	5	6	7	8	fair
1.	positive	0	1	2	3	4	5	6	7	8	negative
2.	dishonest	0	1	2	3	4	5	6	7	8	honest
3.	objective	0	1	2	3	4	5	6	7	8	subjective
4.	fragrant	0	1	2	3	4	5	6	7	8	foul
5.	weak	0	1	2	3	4	5	6	7	8	strong
6.	awful	0	1	2	3	4	5	6	7	8	nice
7.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
8.	sacred	0	1	2	3	4	5	6	7	8	profane
9.	hardworking	0	1	2	3	4	5	6	7	8	lazy
10.	sad	0	1	2	3	4	5	6	7	8	happy
11.	boring	0	1	2	3	4	5	6	7	8	interesting
12.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
13.	sophisticated	0	1	2	3	4	5	6	7	8	naive
14.	valuable	0	1	2	3	4	5	6	7	8	worthless
15.	dirty	0	1	2	3	4	5	6	7	8	clean
16.	beautiful	0	1	2	3	4	5	6	7	8	ugly
17.	bad	0	1	2	3	4	5	6	7	8	good

CONCEPT: CHILDREN

18.	weak	0	1	2	3	4	5	6	7	8	strong
19.	unpleasant	0	1	2	3	4	5	6	7	8	pleasant
20.	objective	0	1	2	3	4	5	6	7	8	subjective
21.	valuable	0	1	2	3	4	5	6	7	8	worthless
22.	dirty	0	1	2	3	4	5	6	7	8	clean
23.	positive	0	1	2	3	4	5	6	7	8	negative
24.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
25.	beautiful	0	1	2	3	4	5	6	7	8	ugly
26.	bad	0	1	2	3	4	5	6	7	8	good
27.	unfair	0	1	2	3	4	5	6	7	8	fair
28.	dishonest	0	1	2	3	4	5	6	7	8	honest
29.	sophisticated	0	1	2	3	4	5	6	7	8	naive
30.	boring	0	1	2	3	4	5	6	7	8	interesting
31.	fragrant	0	1	2	3	4	5	6	7	8	foul
32.	awful	0	1	2	3	4	5	6	7	8	nice
33.	hardworking	0	1	2	3	4	5	6	7	8	lazy
34.	sacred	0	1	2	3	4	5	6	7	8	profane
35.	sad	0	1	2	3	4	5	6	7	8	happy
36.	sensitive	0	1	2	3	4	5	6	7	8	insensitive

CONCEPT: HUMAN NATURE

37.	dirty	0	1	2	3	4	5	6	7	8	clean
38.	valuable	0	1	2	3	4	5	6	7	8	worthless
39.	objective	0	1	2	3	4	5	6	7	8	subjective
40.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
41.	weak	0	1	2	3	4	5	6	7	8	strong
42.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
43.	sad	0	1	2	3	4	5	6	7	8	happy
44.	sacred	0	1	2	3	4	5	6	7	8	profane
45.	hardworking	0	1	2	3	4	5	6	7	8	lazy
46.	awful	0	1	2	3	4	5	6	7	8	nice
47.	fragrant	0	1	2	3	4	5	6	7	8	foul
48.	boring	0	1	2	3	4	5	6	7	8	interesting
49.	sophisticated	0	1	2	3	4	5	6	7	8	naive
50.	dishonest	0	1	2	3	4	5	6	7	8	honest
51.	unfair	0	1	2	3	4	5	6	7	8	fair
52.	bad	0	1	2	3	4	5	6	7	8	good
53.	beautiful	0	1	2	3	4	5	6	7	8	ugly
54.	unsucessful	0	1	2	3	4	5	6	7	8	successful
55.	positive	0	1	2	3	4	5	6	7	8	negative

CONCEPT: INTERRACIAL DATING

56.	awful	0	1	2	3	4	5	6	7	8	nice
57.	fragrant	0	1	2	3	4	5	6	7	8	foul
58.	boring	0	1	2	3	4	5	6	7	8	interesting
59.	sophisticated	0	1	2	3	4	5	6	7	8	naive
60.	dishonest	0	1	2	3	4	5	6	7	8	honest
61.	unfair	0	1	2	3	4	5	6	7	8	fair
62.	bad	0	1	2	3	4	5	6	7	8	good
63.	beautiful	0	1	2	3	4	5	6	7	8	ugly
64.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
65.	positive	0	1	2	3	4	5	6	7	8	negative
66.	dirty	0	1	2	3	4	5	6	7	8	clean
67.	valuable	0	1	2	3	4	5	6	7	8	worthless
68.	objective	0	1	2	3	4	5	6	7	8	subjective
69.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
70.	weak	0	1	2	3	4	5	6	7	8	strong
1.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
2.	sad	0	1	2	3	4	5	6	7	8	happy
3.	sacred	0	1	2	3	4	5	6	7	8	profane
4.	hardworking	0	1	2	3	4	5	6	7	8	lazy

CONCEPT: ABSOLUTE TRUTH

5.	bad	0	1	2	3	4	5	6	7	8	good
6.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
7.	dirty	0	1	2	3	4	5	6	7	8	clean
8.	objective	0	1	2	3	4	5	6	7	8	subjective
9.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
10.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
11.	sacred	0	1	2	3	4	5	6	7	8	profane
12.	awful	0	1	2	3	4	5	6	7	8	nice
13.	boring	0	1	2	3	4	5	6	7	8	interesting
14.	dishonest	0	1	2	3	4	5	6	7	8	honest
15.	beautiful	0	1	2	3	4	5	6	7	8	ugly
16.	positive	0	1	2	3	4	5	6	7	8	negative
17.	valuable	0	1	2	3	4	5	6	7	8	worthless
18.	weak	0	1	2	3	4	5	6	7	8	strong
19.	sad	0	1	2	3	4	5	6	7	8	happy
20.	hardworking	0	1	2	3	4	5	6	7	8	lazy
21.	fragrant	0	1	2	3	4	5	6	7	8	foul
22.	sophisticated	0	1	2	3	4	5	6	7	8	naive
23.	unfair	0	1	2	3	4	5	6	7	8	fair

CONCEPT: CHURCH

24.	beautiful	0	1	2	3	4	5	6	7	8	ugly
25.	positive	0	1	2	3	4	5	6	7	8	negative
26.	valuable	0	1	2	3	4	5	6	7	8	worthless
27.	weak	0	1	2	3	4	5	6	7	8	strong
28.	sad	0	1	2	3	4	5	6	7	8	happy
29.	hardworking	0	1	2	3	4	5	6	7	8	lazy
30.	fragrant	0	1	2	3	4	5	6	7	8	foul
31.	sophisticated	0	1	2	3	4	5	6	7	8	naive
32.	unfair	0	1	2	3	4	5	6	7	8	fair
33.	bad	0	1	2	3	4	5	6	7	8	good
34.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
35.	dirty	0	1	2	3	4	5	6	7	8	clean
36.	objective	0	1	2	3	4	5	6	7	8	subjective
37.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
38.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
39.	sacred	0	1	2	3	4	5	6	7	8	profane
40.	awful	0	1	2	3	4	5	6	7	8	nice
41.	boring	0	1	2	3	4	5	6	7	8	interesting
42.	dishonest	0	1	2	3	4	5	6	7	8	honest

CONCEPT: DISICPLINE

43.	beautiful	0	1	2	3	4	5	6	7	8	ugly
44.	bad	0	1	2	3	4	5	6	7	8	good
45.	positive	0	1	2	3	4	5	6	7	8	negative
46.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
47.	valuable	0	1	2	3	4	5	6	7	8	worthless
48.	dirty	0	1	2	3	4	5	6	7	8	clean
49.	objective	0	1	2	3	4	5	6	7	8	subjective
50.	weak	0	1	2	3	4	5	6	7	8	strong
51.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
52.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
53.	sad	0	1	2	3	4	5	6	7	8	happy
54.	hardworking	0	1	2	3	4	5	6	7	8	lazy
55.	sacred	0	1	2	3	4	5	6	7	8	profane
56.	awful	0	1	2	3	4	5	6	7	8	nice
57.	fragrant	0	1	2	3	4	5	6	7	8	foul
58.	sophisticated	0	1	2	3	4	5	6	7	8	naive
59.	dishonest	0	1	2	3	4	5	6	7	8	honest
60.	unfair	0	1	2	3	4	5	6	7	8	fair
61.	boring	0	1	2	3	4	5	6	7	8	interesting

CONCEPT: GRADES

62.	bad	0	1	2	3	4	5	6	7	8	good
63.	beautiful	0	1	2	3	4	5	6	7	8	ugly
64.	dirty	0	1	2	3	4	5	6	7	8	clean
65.	valuable	0	1	2	3	4	5	6	7	8	worthless
66.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
67.	sad	0	1	2	3	4	5	6	7	8	happy
68.	sacred	0	1	2	3	4	5	6	7	8	profane
69.	awful	0	1	2	3	4	5	6	7	8	nice
70.	fragrant	0	1	2	3	4	5	6	7	8	foul
1.	dishonest	0	1	2	3	4	5	6	7	8	honest
2.	unfair	0	1	2	3	4	5	6	7	8	fair
3.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
4.	positive	0	1	2	3	4	5	6	7	8	negative
5.	objective	0	1	2	3	4	5	6	7	8	subjective
6.	weak	0	1	2	3	4	5	6	7	8	strong
7.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
8.	hardworking	0	1	2	3	4	5	6	7	8	lazy
9.	boring	0	1	2	3	4	5	6	7	8	interesting
10.	sohpisticated	0	1	2	3	4	5	6	7	8	naive

CONCEPT: RACIAL PREJUDICE

11.	unfair	0	1	2	3	4	5	6	7	8	fair
12.	bad	0	1	2	3	4	5	6	7	8	good
13.	dishonest	0	1	2	3	4	5	6	7	8	honest
14.	beautiful	0	1	2	3	4	5	6	7	8	ugly
15.	sophisticated	0	1	2	3	4	5	6	7	8	naive
16.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
17.	boring	0	1	2	3	4	5	6	7	8	interesting
18.	positive	0	1	2	3	4	5	6	7	8	negative
19.	fragrant	0	1	2	3	4	5	6	7	8	foul
20.	dirty	0	1	2	3	4	5	6	7	8	clean
21.	awful	0	1	2	3	4	5	6	7	8	nice
22.	valuable	0	1	2	3	4	5	6	7	8	worthless
23.	hardworking	0	1	2	3	4	5	6	7	8	lazy
24.	objective	0	1	2	3	4	5	6	7	8	subjective
25.	sacred	0	1	2	3	4	5	6	7	8	profane
26.	sad	0	1	2	3	4	5	6	7	8	happy
27.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
28.	sensitive	0	1	2	3	4	5	6	7	8	insensitive
29.	weak	0	1	2	3	4	5	6	7	8	strong

CONCEPT: POOR PEOPLE

30.	bad	0	1	2	3	4	5	6	7	8	good
31.	beautiful	0	1	2	3	4	5	6	7	8	ugly
32.	unsuccessful	0	1	2	3	4	5	6	7	8	successful
33.	sophisticated	0	1	2	3	4	5	6	7	8	naive
34.	dishonest	0	1	2	3	4	5	6	7	8	honest
35.	unfair	0	1	2	3	4	5	6	7	8	fair
36.	positive	0	1	2	3	4	5	6	7	8	negative
37.	dirty	0	1	2	3	4	5	6	7	8	clean
38.	valuable	0	1	2	3	4	5	6	7	8	worthless
39.	awful	0	1	2	3	4	5	6	7	8	nice
40.	fragrant	0	1	2	3	4	5	6	7	8	foul
41.	boring	0	1	2	3	4	5	6	7	8	interesting
42.	objective	0	1	2	3	4	5	6	7	8	subjective
43.	pleasant	0	1	2	3	4	5	6	7	8	unpleasant
44.	sad	0	1	2	3	4	5	6	7	8	happy
45	sacred	0	1	2	3	4	5	6	7	8	profane
46.	hardworking	0	1	2	3	4	5	6	7	8	lazy
47.	weak	0	1	2	3	4	5	6	7	8	strong
48.	sensitive	0	1	2	3	4	5	6	7	8	insensitive

CONCEPT: CORPORAL PUNISHMENT

49.	sophisticated	0 1 2 3 4 5 6 7 8	naive
50.	boring	0 1 2 3 4 5 6 7 8	interesting
51.	hardworking	0 1 2 3 4 5 6 7 8	lazy
52.	sensitive	0 1 2 3 4 5 6 7 8	insensitive
53.	weak	0 1 2 3 4 5 6 7 8	strong
54.	objective	0 1 2 3 4 5 6 7 8	subjective
55.	positive	0 1 2 3 4 5 6 7 8	negative
56.	unsuccessful	0 1 2 3 4 5 6 7 8	successful
57.	unfair	0 1 2 3 4 5 6 7 8	fair
58.	dishonest	0 1 2 3 4 5 6 7 8	honest
59.	fragrant	0 1 2 3 4 5 6 7 8	foul
60.	awful	0 1 2 3 4 5 6 7 8	nice
61.	sacred	0 1 2 3 4 5 6 7 8	profane
62.	sad	0 1 2 3 4 5 6 7 8	happy
63.	pleasant	0 1 2 3 4 5 6 7 8	unpleasant
64.	valuable	0 1 2 3 4 5 6 7 8	worthless
65.	dirty	0 1 2 3 4 5 6 7 8	clean
66.	beautiful	0 1 2 3 4 5 6 7 8	ugly
67.	bad	0 1 2 3 4 5 6 7 8	good

68. Code "1" if you are male and "2" if you are female.

APPENDIX B

Item correlation matrix #1 for the punctuality scale as seen from pretest observations

Item No.	1	2	3	4	5	6	7	8	9	10	11
1	1.000										
2	.2818	1.000									
3	.1897	.1673	1.000								
4	.3240	.2895	.4234	1.000							
5	.2612	.2262	.2184	.2430	1.000						
6	.0425	-.0579	-.0593	-.1782	.1220	1.000					
7	.2993	.2293	.3531	.2714	.2842	.1252	1.000				
8	.2439	.1827	.3377	.3492	.1412	.0759	.3746	1.000			
9	.2465	.1799	.3874	.3459	.2030	-.1188	.2825	.3284	1.000		
10	.1785	.2412	.1059	.1418	.4156	.1076	.2591	.0814	.2273	1.000	
11	.1574	.0850	.1757	.2697	.4783	.1149	.1474	.1208	.2469	.5303	1.000
12	.2935	.2355	.2881	.2800	.2954	.1022	.5142	.5448	.3316	.2615	.2071
13	.1478	.1703	.2039	.2100	.3099	.0400	.2597	.1315	.2629	.3755	.3224
14	.1803	.1545	.1943	.1933	.1321	.0500	.3058	.1264	.2294	.2260	.0382
15	.1916	.1500	.1384	.2134	.2443	.0022	.2125	.1416	.2039	.3746	.2963
16	.2556	.2463	.1938	.2014	.3561	.0143	.2125	.0876	.2361	.4690	.3678
17	.2131	.1852	.0884	.1500	.3241	.0566	.3153	.1790	.1354	.4024	.3670
18	.2419	.1734	.2389	.1993	.1105	.0474	.2735	.4353	.3413	.1050	.0061
19	.2844	.3333	.2800	.2946	.2103	.0422	.3653	.2503	.3046	.3372	.3247

Item No.	12	13	14	15	16	17	18	19
12	1.000							
13	.1806	1.000						
14	.2423	.1985	1.000					
15	.3239	.3746	.1952	1.000				
16	.2324	.3421	.2344	.4248	1.000			
17	.3361	.2309	.1647	.2790	.3360	1.000		
18	.4858	.0725	.1046	.1783	.1736	.1854	1.000	
19	.3968	.2392	.2574	.3197	.2664	.5339	.3367	1.000

Item correlation matrix #2 for the punctuality scale as seen from posttest observations

Item No.	1	2	3	4	5	6	7	8	9	10	11
1	1.000										
2	.1293	1.000									
3	.2344	-.1782	1.000								
4	.0079	.0235	.2520	1.000							
5	.3050	.2211	.3219	-.1931	1.000						
6	-.0435	-.1119	.1707	.1889	-.2785	1.000					
7	.5119	.2560	.3313	-.0302	.5158	-.0331	1.000				
8	.1542	-.1076	.4023	.1798	.0424	.1667	.1687	1.000			
9	.1016	-.0705	.3561	.5081	-.0926	.1182	.1007	.5088	1.000		
10	.4339	.1255	.1387	.0626	.3389	-.1454	.3917	.0322	.1247	1.000	
11	.3775	.0521	.3478	-.0781	.4594	-.0101	.5219	.0581	.0510	.3557	1.000
12	.4108	.0568	.4170	.1292	.2302	.1864	.3856	.4188	.3523	.2009	.3978
13	.3163	.3113	-.0982	-.0653	.4174	-.2735	.2694	-.1849	-.1866	.3159	.1548
14	.2936	-.3222	.4435	.1922	.0420	.1449	.2209	.4008	.4861	.1637	.2598
15	.0966	.0663	.5146	.2758	.2162	.2211	.2777	.4301	.4461	.0062	.1930
16	.0468	.0848	.3084	.3842	.0038	.2220	.0764	.4216	.3929	.0689	.1203
17	.1950	-.1380	.3051	.2246	.1693	-.0226	.2554	.3767	.3911	.2437	.2216
18	.4063	-.1774	.5087	.0190	.4274	-.0024	.3482	.3316	.3317	.2668	.4317
19	.2696	.1401	.0867	.0338	.1682	-.0199	.1433	.0333	.1124	.1000	.1416

Item No.	12	13	14	15	16	17	18	19
12	1.000							
13	.0512	1.000						
14	.4663	-.1094	1.000					
15	.4345	.0338	.4310	1.000				
16	.2847	-.1668	.2021	.4225	1.000			
17	.3409	.0536	.4384	.3873	.3429	1.000		
18	.5253	.1644	.6080	.3539	-.0058	.3478	1.000	
19	.1088	.2742	.2074	.1925	.0687	.2318	.3138	1.000

Item correlation matrix #3 for the American negro scale as seen from pretest observations

Item No.	2	4	5	7	11	13	15	17	19	18	16
2	1.000										
4	-.2691	1.000									
5	.1329	.0165	1.000								
7	.2775	.0905	.4246	1.000							
11	.0915	.1827	.4982	.6245	1.000						
13	.2054	-.0366	.2662	.3731	.2944	1.000					
15	.1022	.2044	.3360	.3903	.4795	.2945	1.000				
17	.0434	.1120	.3158	.5045	.4485	.4607	.3493	1.000			
19	-.0431	.2009	.3143	.4548	.4066	.2891	.3919	.6070	1.000		
18	.2011	.0495	.3986	.5909	.5458	.5444	.3941	.6075	.4487		
16	.1680	.0037	.4175	.4628	.5426	.4755	.4573	.4933	.3666	.5466	1.000
14	-.0334	.3509	.2153	.3421	.3432	.2877	.5212	.4224	.3917	.3995	.4055
12	.0758	.0962	.4074	.4062	.4649	.3312	.3749	.4945	.3707	.4835	.4755
10	.1389	.1823	.3946	.5641	.6048	.4561	.4600	.6447	.4820	.6829	.5955
8	.2839	-.0977	.3401	.5109	.4442	.4735	.3080	.5065	.2726	.5962	.5349
6	-.1477	.1951	.1618	.0528	.0968	-.0971	.0749	.0749	.1373	.0539	.0636
9	.1676	.0314	.3564	.4379	.4216	.4706	.4244	.4244	.2729	.5977	.5250
3	.1468	.0986	.3511	.4339	.4850	.3284	.4649	.4649	.3198	.4971	.5489
1	.1489	-.1446	.3298	.3432	.2559	.4032	.3543	.3543	.2049	.4257	.4338

Item No.	14	12	10	8	6	9	3	1
14	1.000							
12	.4071	1.000						
10	.5325	.5169	1.000					
8	.2925	.4949	.5249	1.000				
6	.1426	.2181	.1964	.0174	1.000			
9	.3158	.3456	.5852	.4695	.0833	1.000		
3	.3676	.5001	.6090	.4650	.1245	.4832	1.000	
1	.2994	.4112	.4240	.4437	.0982	.4398	.4245	1.000

Item correlation matrix #4 for the American negro scale as seen from posttest observations

Item No.	2	4	5	7	11	13	15	17	19	18	16
2	1.000										
4	-.1468	1.000									
5	.0689	-.1788	1.000								
7	.3156	.1999	-.0520	1.000							
11	.0629	-.1064	.1122	.0693	1.000						
13	.3139	.1915	-.2189	.3042	-.0784	1.000					
15	.0096	.2834	-.1335	.3589	-.0444	.4432	1.000				
17	.1486	-.2784	.3520	-.0401	.1931	-.2159	-.3748	1.000			
19	.0033	-.1937	.3139	-.1233	.1957	-.2807	-.3463	.7051	1.000		
18	.2569	.2995	-.0180	.2571	.0730	.3995	.2181	.1206	.0150	1.000	
16	.1337	.2291	-.0981	.3583	.1034	.4759	.4842	-.3635	-.3483	.3719	1.000
14	.0671	.2200	-.1896	.3075	-.1041	.3915	.3267	-.2129	-.2140	.3318	.3735
12	.0225	.1909	-.0895	.3169	.1137	.2742	.4363	-.3011	-.2103	.2976	.6010
10	-.0730	.2633	-.1822	.2652	.0621	.4652	.3865	-.1645	-.1156	.4080	.5726
8	.2281	-.4386	.4507	-.0741	.2674	-.2511	-.3549	.7158	.5223	.0555	-.2855
6	-.0914	.2832	-.1115	.1306	.0085	-.0053	.3355	-.3277	-.2912	.0883	.3268
9	.0520	.3473	-.0750	.2495	.0816	.4566	.2551	-.0978	-.0840	.5202	.5202
3	.1883	.1859	-.1806	.4395	.0121	.5476	.5249	-.3530	-.2978	.3194	.5766
1	.5291	-.3145	.2643	.1116	.0985	.2513	-.1174	.3950	.2093	.2016	-.1118

Item No.	14	12	10	8	6	9	3	1
14	1.000							
12	.4398	1.000						
10	.5147	.5755	1.000					
8	-.3062	-.2119	-.2492	1.000				
6	.3208	.4361	.2460	-.3009	1.000			
9	.4094	.4457	.6520	-.1641	.1677	1.000		
3	.4463	.5063	.5324	-.3464	.3415	.4161	1.000	
1	-.0999	-.2109	-.1517	.4438	-.2488	-.0093	-.0010	1.000

Item correlation matrix #5 for the public school teachers scale as seen from pretest observations

Item No.	14	19	12	17	6	11	1	9	2	5	7
14	1.000										
19	.6042	1.000									
12	.4240	.5016	1.000								
17	.4133	.5408	.3859	1.000							
6	.2555	.3125	.2928	.3507	1.000						
11	.2823	.3050	.3471	.2648	.1532	1.000					
1	.3496	.2895	.3227	.3721	.1250	.3227	1.000				
9	.3798	.3896	.4496	.4403	.2402	.4891	.4003	1.000			
2	.1775	.1886	.2653	.2118	.0660	.1391	.2411	.2367	1.000		
5	.1714	.1392	.1412	.2094	.0625	.4142	.1947	.3681	.1821	1.000	
7	.4117	.4558	.4714	.4972	.2707	.2716	.3548	.4362	.3856	.1992	1.000
4	.3635	.3006	.3161	.4568	.2051	.2627	.3974	.4711	.2237	.1316	.4459
13	.4222	.3008	.3453	.3726	.1897	.2460	.4112	.4478	.2079	.2310	.4468
3	.3168	.3423	.3729	.4332	.2621	.2941	.2651	.4893	.4245	.2076	.4986
15	.3589	.2946	.2877	.3539	.2017	.3360	.2689	.4339	.1405	.2565	.3004
8	.3310	.3062	.4128	.3268	.1680	.2420	.4813	.4813	.3148	.2335	.5415
10	.2192	.1468	.0125	.1886	.0298	.2932	.3757	.3757	.1156	.2690	.1837
16	.1804	.2620	.1500	.2469	.1547	.3620	.2926	.2926	.0748	.2885	.2459
18	.3521	.3492	.4187	.4671	.2304	.2457	.5324	.5324	.3320	.2711	.5418

Item No.	4	13	3	15	8	10	16	18
4	1.000							
13	.4840	1.000						
3	.4555	.3983	1.000					
15	.4156	.3714	.4517	1.000				
8	.3555	.4635	.4255	.3520	1.000			
10	.2469	.2622	.2512	.1831	.2800	1.000		
16	.2659	.2330	.2984	.2597	.1136	.1909	1.000	
18	.3979	.4056	.4796	.3050	.5397	.3178	.2959	1.000

Item correlation matrix #6 for the public school teachers scale as seen from posttest observations

Item No.	14	19	12	17	6	11	1	9	2	5	7
14	1.000										
19	.8837	1.000									
12	.1852	.2115	1.000								
17	.7007	.7656	.1791	1.000							
6	-.1152	-.0877	.1048	.0025	1.000						
11	-.2979	-.2847	.1329	-.1885	.5095	1.000					
1	.5847	.5921	.0866	.4668	-.0392	-.1943	1.000				
9	.4675	.4859	.1323	.4141	-.1639	-.1929	.3097	1.000			
2	-.4019	-.3926	.0557	-.2427	.3556	.3795	-.2917	-.2760	1.000		
5	.3419	.3779	.2145	.2978	-.0418	.0496	.3776	.1184	-.1507	1.000	
7	.4145	.4021	.1529	.3928	.0987	-.0069	.4310	.2873	-.0327	.4706	1.000
4	.0898	.0821	.1234	.1037	.1396	.2005	.1596	.0085	.1387	.1989	.3241
13	.1824	.2279	.1713	.2717	.0431	.0657	.1602	.1135	.0449	.1041	.2072
3	.6628	.6944	.2243	.6346	-.1332	-.2226	.5624	.4735	-.3961	.4201	.4668
15	.0794	.0726	-.0764	.0718	.1690	.0584	.0323	.0418	.1907	-.0223	.0760
8	.5191	.5476	.1833	.5463	-.0296	-.1349	.4160	.3065	-.1507	.2289	.3058
10	.5578	.5705	.1352	.5036	-.1300	-.1827	.4838	.3715	-.4252	.3608	.3380
16	.3558	.4027	.2069	.3726	-.0541	-.0941	.3153	.2841	-.1663	.3526	.2563
18	.7385	.7827	.2435	.6901	-.0937	-.2404	.5593	.4781	-.3654	.4264	.4470

Item No.	4	13	3	15	8	10	16	18
4	1.000							
13	.1416	1.000						
3	-.0041	.1925	1.000					
15	.1100	.0325	-.1094	1.000				
8	.0792	.2206	.6117	.0296	1.000			
10	-.0291	.1941	.7528	-.1803	.5753	1.000		
16	.0230	.1137	.5159	-.2420	.4422	.5622	1.000	
18	.0245	.2647	.8571	-.0382	.6337	.7590	.5227	1.000

Item correlation matrix #7 for the children scale as seen from pretest observations

Item No.	1	3	6	8	10	12	14	16	18	19	17
1	1.000										
3	.2467	1.000									
6	.1613	.0170	1.000								
8	.1904	.4717	.0092	1.000							
10	.3264	.2863	.1330	.2088	1.000						
12	.2277	.4479	-.0354	.3996	.3161	1.000					
14	.2463	.3252	.0318	.2407	.2098	.2489	1.000				
16	.1079	.4683	.0782	.3866	.2675	.4145	.2211	1.000			
18	.1708	.4252	.0271	.2648	.2844	.3474	.2353	.3409	1.000		
19	.3088	.3346	.0706	.2203	.2547	.3095	.3504	.2026	.3045	1.000	
17	.3206	.3464	.1041	.2544	.2817	.2995	.1623	.3066	.3140	.4903	1.000
15	.3433	-.0109	.1794	.0487	.1867	-.0470	.0154	-.1243	.0630	.1572	.0468
13	.1135	.5061	.0218	.4101	.1576	.2914	.2411	.3596	.2280	.1190	.1978
11	.2636	.2506	.0776	.3273	.3870	.2838	.2218	.3164	.2399	.2963	.2447
9	.1964	.5005	.0164	.2839	.3725	.4907	.2890	.4112	.5357	.2554	.3455
7	.1683	.3206	-.0082	.3089	.2088	.2650	.3140	.2717	.2577	.2986	.1710
5	.0809	.3472	-.0608	.3111	.2950	.3664	.2852	.2974	.2397	.2947	.1986
4	.1325	.3337	-.0216	.2521	.1936	.3470	.1982	.3705	.3906	.2492	.2483
2	.1218	.3899	-.0702	.3875	.2552	.3846	.1651	.3602	.3670	.2316	.2486

Item No.	15	13	11	9	7	5	4	2
15	1.000							
13	-.1376	1.000						
11	.0901	.3367	1.000					
9	.0987	.3589	.3235	1.000				
7	.0467	.3604	.2470	.2772	1.000			
5	.0010	.1812	.3179	.3059	.3216	1.000		
4	.0895	.3812	.3228	.3596	.2223	.2223	1.000	
2	.0656	.3529	.1697	.4088	.2474	.2575	.2951	1.000

Item correlation matrix #8 for the children scale as seen from posttest observations

Item No.	1	3	6	8	10	12	14	16	18	19	17
1	1.000										
3	.1856	1.000									
6	.0677	.1979	1.000								
8	.1262	.1799	-.1663	1.000							
10	.0951	-.0860	-.2197	.0601	1.000						
12	.1077	.2480	-.0519	.3518	.4009	1.000					
14	.2666	.5381	.0915	.0645	.0632	.2104	1.000				
16	.1525	.6845	.0839	.2690	-.0215	.3750	.6472	1.000			
18	.2363	.6298	.1152	.1752	-.0305	.2409	.6686	.7166	1.000		
19	.0846	-.1450	-.1373	.1833	.2823	.2671	-.2005	-.2440	-.1027	1.000	
17	.1617	.6354	.0769	.1199	-.0132	.2681	.6518	.6967	.7020	-.1450	1.000
15	.2003	.1953	.2082	-.0190	-.2407	-.1759	.1868	.2317	.2111	-.3271	.1952
13	.0726	.0318	-.2751	.1765	.5656	.4267	.1012	.0641	.0428	.2915	.0120
11	.1966	.4946	-.0285	.2540	.1166	.4701	.5454	.5984	.4564	-.0601	.4716
9	.2501	.4847	.0048	.2384	.1796	.5053	.4838	.5253	.4987	.0611	.4505
7	.0952	-.1093	-.0517	.1527	.2055	.1163	-.0559	-.0514	.0125	.2497	.0036
5	.1613	.4545	.0489	.1891	.0898	.3633	.4788	.5791	.4022	-.1588	.4171
4	.1401	.5043	-.0688	.2133	.1297	.4260	.5568	.6467	.5568	-.0546	.5138
2	-.0045	.3693	.0363	.2019	.1009	.2144	.3452	.5079	.3821	-.1180	.3947

Item No.	15	13	11	9	7	5	4	2
15	1.000							
13	-.4600	1.000						
11	.0629	.1173	1.000					
9	.0206	.3128	.5692	1.000				
7	-.0345	.1274	-.1636	-.1818	1.000			
5	.0890	.2053	.6049	.5488	-.2096	1.000		
4	-.0371	.3008	.6559	.5964	-.1552	.6156	1.000	
2	.0531	.1622	.1622	.2540	.0842	.2891	.4171	1.000

Item correlation matrix #9 for the human nature scale as seen from pretest observations

Item No.	10	8	6	3	1	2	4	5	7	9	11
10	1.000										
8	.4043	1.000									
6	.1022	.1204	1.000								
3	.5501	.3828	.1915	1.000							
1	.3342	.2831	.1117	.3633	1.000						
2	.2941	.2814	.0042	.4132	.2119	1.000					
4	.4175	.2427	.0849	.4871	.3825	.3665	1.000				
5	.4043	.3582	.2253	.3633	.2485	.3687	.3561	1.000			
7	-.3420	.2656	.2097	.3516	.2720	.2133	.2713	.2437	1.000		
9	.4764	.2603	.2088	.4891	.2116	.3680	.4718	.4244	.2828	1.000	
11	.4451	.2809	.2616	.4371	.1793	.3326	.4376	.5458	.2928	.5132	1.000
13	.1938	.2183	.0131	.1692	.1509	.0679	.2762	.2746	.1405	.1464	.1690
15	.1831	.1273	.2028	.2543	.1846	-.0218	.1433	.2148	.3522	.1448	.2342
17	.5343	.2883	.1230	.4900	.2727	.3102	.4498	.3343	.2823	.4901	.3737
19	.5169	.2614	.1190	.4609	.2794	.2586	.5090	.3326	.2451	.4735	.3748
18	.5094	.3496	.1610	.5871	.3139	.3651	.4816	.3915	.3248	.5675	.5675
16	.4826	.3087	.2584	.5082	.2939	.2962	.3433	.5165	.2684	.4144	.5370
14	.3539	.2409	.2528	.4768	.3343	.2587	.3959	.3843	.2898	.4207	.5089
12	.4404	.2865	.1031	.5157	.2061	.3247	.4379	.4042	.1828	.4709	.4688

Item No.	13	15	17	19	18	16	14	12
13	1.000							
15	.0590	1.000						
17	.0673	.1148	1.000					
19	.0427	.0652	.1248	1.000				
18	.1818	.0725	.5490	.5704	1.000			
16	.2443	.2592	.3858	.2942	.5041			
14	.1376	.2760	.3235	.3881	.5001	.5093	1.000	
12	.2233	.1217	.3749	.4808	.4972	.4754	.4968	1.000

Item correlation matrix #10 for the human nature scale as seen from posttest observations

Item No.	10	8	6	3	1	2	4	5	7	9	11
10	1.000										
8	-.2514	1.000									
6	.3666	-.2963	1.000								
3	.5662	-.0402	.3542	1.000							
1	.4646	-.0719	.3028	.4382	1.000						
2	-.2045	.5430	-.3155	-.0892	-.0974	1.000					
4	.0440	.1995	-.1862	-.0901	.0421	.2373	1.000				
5	.6049	-.2131	.3882	.4512	.3200	-.2411	-.0502	1.000			
7	-.1995	.3872	-.1206	-.0622	-.1095	.4525	.2259	-.3092	1.000		
9	.5137	-.1354	.3920	.5652	.5679	-.0925	-.0567	.5775	-.1690	1.000	
11	.1334	-.2006	.3068	.5611	.3668	-.1530	.0122	.5311	-.2417	.5588	1.000
13	-.1617	.4608	-.3147	-.0581	-.0495	.4771	.2009	-.1810	.3338	-.0514	-.2819
15	.5520	-.2164	.3733	.3586	.3996	-.3941	-.0332	.5031	-.3382	.4949	.5298
17	.6587	-.0967	.2700	.5567	.4588	-.1074	.1439	.5599	-.1642	.5749	.5284
19	.3363	.1269	.1268	.2872	.2477	.1200	.3138	.2579	.1053	.3342	.2213
18	.5137	.0259	.3295	.4201	.4421	-.0557	.1754	.3596	-.0223	.5732	.3990
16	.1334	.1090	.0520	.1172	.0378	.1513	.0395	.1829	.1098	.1353	.0300
14	.2187	.0322	.1099	.1698	.2701	-.1666	.0615	.1769	-.1089	.3124	.2160
12	.6181	-.0469	.2457	.4758	.3976	-.0524	.2192	.5198	-.1219	.5593	.5214

Item No.	13	15	17	19	18	16	14	12
13	1.000							
15	-.3020	1.000						
17	-.0501	.4726	1.000					
19	.0790	.1910	.4891	1.000				
18	.0191	.3535	.5858	.3357	1.000			
16	.1100	.1302	.0590	.2946	-.0565	1.000		
14	-.0754	.3509	.3454	.0298	.4973	-.2396	1.000	
12	-.0527	.4817	.7306	.3911	.5975	.0092	.4282	1.000

Item correlation matrix #11 for the interracial dating scale as seen from pretest observations

Item No.	9	11	13	15	17	19	18	16	14	12	10
9	1.000										
11	.7112	1.000									
13	.3287	.3169	1.000								
15	.5366	.4769	.4124	1.000							
17	.5784	.4695	.4790	.5325	1.000						
19	.5827	.4989	.4174	.5613	.7057	1.000					
18	.8128	.6084	.4132	.5403	.6535	.6612	1.000				
16	.6657	.5996	.3955	.5333	.5199	.5392	.7503	1.000			
14	.4594	.4293	.2666	.3724	.4456	.4307	.5267	.4128	1.000		
12	.6979	.5876	.3284	.4908	.6019	.5584	.7857	.7133	.5251	1.000	
10	.6404	.5680	.4804	.5571	.6506	.5629	.6848	.6883	.4155	.6208	1.000
8	.6327	.4752	.5042	.5070	.6397	.6133	.6725	.5926	.4237	.6031	.7090
6	.1554	.1366	.0379	.0437	.2064	.1733	.1750	.0686	.1935	.1648	.2037
3	.6416	.5360	.3637	.4616	.5137	.5229	.6654	.5717	.4896	.6465	.6358
1	.3152	.3440	.2096	.3139	.4024	.3624	.3292	.3719	.3202	.3444	.3958
2	.1863	.1350	.3416	.2178	.2832	.2149	.2009	.2885	.1614	.1933	.3900
4	.5435	.4496	.3569	.4732	.5237	.5363	.5971	.6462	.4440	.5858	.6121
5	.5016	.4399	.3586	.4366	.5303	.4801	.5557	.5325	.3363	.5813	.6804
7	.3388	.3587	.4450	.4564	.4576	.4032	.4249	.3384	.3236	.3738	.4552

Item No.	8	6	3	1	2	4	5	7
8	1.000							
6	.1791	1.000						
3	.6185	.2444	1.000					
1	.4185	-.0016	.2167	1.000				
2	.3596	.0588	.1345	.1752	1.000			
4	.5686	.1635	.6092	.3237	.2108	1.000		
5	.5700	.1944	.5513	.2746	.2567	.5093	1.000	
7	.4020	.1271	.3294	.2922	.3569	.3175	.3987	1.000

Item correlation matrix #12 for the interracial dating scale as seen from post-test observations

Item No.	9	11	13	15	17	19	18	16	14	12	10
9	1.000										
11	.5618	1.000									
13	-.2385	-.3458	1.000								
15	.4400	.6675	.1218	1.000							
17	.4561	.6118	-.0734	.6329	1.000						
19	-.1012	-.1614	.4027	-.0891	.0481	1.000					
18	.6153	.5759	-.1212	.5371	.5229	-.0822	1.000				
16	.5394	.6181	-.2666	.6287	.5647	-.0786	.5516	1.000			
14	.2786	.4076	-.0971	.4507	.5658	-.0383	.4887	.4142	1.000		
12	.1609	.0856	.1551	.1648	.0731	.3041	.1297	.1509	.0842	1.000	
10	.0791	-.1438	.3878	-.2529	-.2282	.4692	.0135	-.0802	-.2540	.2562	1.000
8	-.0766	-.1473	.4722	-.1457	-.1178	.4794	.0296	.0252	-.1371	.2798	.6859
6	.1725	.3466	-.4161	.2957	.3136	-.2404	.2388	.2401	-.2961	-.0834	.3128
3	.3016	.3345	.0168	.2475	.2656	-.0340	.3171	.4142	.1746	.1771	.1343
1	.0198	-.0674	.1532	-.0362	-.0113	.3084	.0329	.0736	-.0835	.2318	.2755
2	-.0824	-.1360	.2741	-.0211	.0351	.2121	-.1734	-.0697	-.0979	.1916	.0501
4	.2268	-.0467	.0692	-.1494	-.0726	.3412	.0923	.0583	-.0832	.2659	.4360
5	.1705	.0601	.1071	.0647	.1059	.2172	.0490	.1896	-.0339	.3940	.1461
7	-.0458	.0022	.1817	.0409	-.0227	.1913	-.0014	.0378	-.0364	.1786	.2065

Item No.	8	6	3	1	2	4	5	7
8	1.000							
6	-.3439	1.000						
3	.1304	-.0003	1.000					
1	.2393	-.1748	-.1977	1.000				
2	.1541	-.1265	-.2140	.3864	1.000			
4	.3402	-.1437	-.0697	.5818	.3232	1.000		
5	.1681	-.0405	.0321	.3415	.2153	.3272	1.000	
7	.2259	-.1224	-.1727	.3912	.3878	.3921	.2265	1.000

Item correlation matrix #13 for the absolute truth scale as seen from pretest observations

Item No.	18	14	10	6	3	2	5	9	13	17	16
18	1.000										
14	.4799	1.000									
10	.4592	.3519	1.000								
6	.1409	.0256	.0903	1.000							
3	.4185	.3304	.3184	-.0018	1.000						
2	.3470	.2703	.2697	.0172	.2635	1.000					
5	.4959	.3327	.4378	.1817	.4345	.3314	1.000				
9	.5270	.4130	.4723	.0141	.6144	.3792	.5427	1.000			
13	.3574	.2696	.2421	-.0346	.2644	.1952	.3558	.3186	1.000		
17	.5118	.3200	.3932	.1054	.2178	.2544	.3456	.3892	.2933	1.000	
16	.4593	.2671	.4024	.0261	.5435	.3175	.5543	.6198	.3397	.3518	1.000
12	.5929	.3411	.4503	.1549	.4633	.4015	.5081	.5741	.2903	.5304	.5797
8	.6200	.4392	.3301	.1934	.3907	.3184	.5491	.5219	.3391	.5241	.4915
1	.5120	.3988	.4341	.1218	.2883	.2366	.4117	.5049	.3181	.5217	.4523
4	.4712	.4127	.3813	-.0259	.6557	.2707	.3794	.5971	.3685	.2749	.5219
7	.2928	.2272	.3258	.1199	.2631	.1805	.3305	.3127	.2263	.3189	.2602
11	.2527	.3247	.2322	.0635	.4008	.2270	.3146	.4327	.2095	.2143	.3680
15	.3326	.1618	.1690	.1250	.2311	.2638	.2966	.3776	.1547	.2031	.3314
19	.5469	.3557	.4507	.1873	.4024	.2979	.4690	.4505	.2273	.4975	.4003

Item No.	12	8	1	4	7	11	15	19
12	1.000							
8	.6045	1.000						
1	.4934	.5209	1.000					
15	.4167	.3864	.5427	1.000				
4	.3474	.3273	.3641	.2947	1.000			
11	.3034	.3287	.3658	.3641	.2628	1.000		
15	.3732	.4133	.2118	.2827	.3482	.1804	1.000	
19	.5054	.6154	.4835	.4044	.3372	.2955	.3312	1.000

Item correlation matrix #14 for the absolute truth scale as seen from posttest observations

Item No.	18	14	10	6	3	2	5	9	13	17	16
18	1.000										
14	.4267	1.000									
10	-.0469	-.2251	1.000								
6	.2001	.2635	-.0611	1.000							
3	.4558	.5158	-.1043	.2293	1.000						
2	-.0433	-.1893	.4592	-.1553	-.0875	1.000					
5	-.1189	-.2700	.5598	-.0308	-.2563	.5774	1.000				
9	.0789	-.2664	.6119	-.0675	-.1782	.6035	.7335	1.000			
13	-.1086	-.2152	.5730	-.0450	-.2171	.4835	.6317	.5883	1.000		
17	.1197	-.3009	.5855	-.0163	-.3552	.4510	.6597	.7441	.5929	1.000	
16	.0816	-.2146	.5219	-.0552	-.1059	.5422	.6131	.6707	.5560	.6580	1.000
12	.5806	.3178	.0943	.3668	.3478	.1300	.1117	.2059	.1105	.2294	.1579
8	.0948	-.3256	.5916	-.0355	-.2614	.5209	.6712	.7759	.5688	.8036	.6968
1	.2630	.1904	.1798	.0772	.1731	.0040	.0752	.1534	.0911	.1606	.0730
15	.0946	.5080	-.1804	.0913	.3892	-.0223	-.2446	-.2427	-.1509	-.4601	-.2068
4	.1821	.0168	.3342	.0138	-.0231	.1921	.2848	.2462	.1693	.3153	.2339
11	.1110	.4384	-.1922	.1536	.4313	-.0972	-.2357	-.2291	-.2391	-.4967	-.2526
15	.0709	-.1649	.3035	-.0117	-.1568	.3863	.3894	.4145	.3077	.5092	.5269
19	.3138	-.1247	.5798	-.0135	-.0408	.4270	.5394	.6576	.4454	.7247	.6828

Item No.	12	8	1	15	4	11	15	19
12	1.000							
8	.2477	1.000						
1	.2549	.1464	1.000					
15	.0892	-.3843	.1987	1.000				
4	.2337	.3269	.1844	-.0571	1.000			
11	.1112	-.3426	.1602	.7885	-.0759	1.000		
15	.1467	.5292	-.0161	-.3528	.2041	-.2875	1.000	
19	.2821	.6944	.0895	-.3959	.3641	-.4659	.5767	1.000

Item correlation matrix #15 for the corporal punishment scale as seen from pre-test observations

Item No.	15	13	17	2	1	6	12	14	19	17	11
15	1.000										
13	.1577	1.000									
17	.3422	.1666	1.000								
2	.3008	.1430	.1509	1.000							
1	.2832	.2114	.1699	.2872	1.000						
6	.0961	.1907	.0389	.0855	.0849	1.000					
12	.3871	.1119	.2531	.2624	.3956	.2350	1.000				
14	.3656	.2148	.2940	.3424	.4739	.0980	.5202	1.000			
19	.4278	.0825	.2447	.2726	.2850	.0875	.5310	.4439	1.000		
17	.3892	.1830	.3360	.2647	.3540	.1297	.4557	.4420	.6624	1.000	
11	.1739	.0973	.0818	.1316	.2134	.1649	.4167	.1550	.2173	.3058	1.000
9	.3473	.0121	.1759	.2788	.2080	.0790	.4816	.3758	.5195	.4940	.4164
5	.2703	-.0006	.2036	.1333	.1521	.0008	.3968	.1749	.3626	.4384	.5126
4	.2589	.0488	.1880	.1993	.2338	.0742	.4042	.3977	.3737	.3504	.4282
3	.2229	.0682	.2036	.1965	.1589	.1573	.3849	.3151	.3160	.2564	.4085
8	.4042	.1207	.3025	.3089	.4494	.1772	.5216	.5675	.6027	.5458	.3132
10	.3264	.2299	.2017	.1024	.1377	.0625	.3044	.2033	.2506	.4510	.4177
16	.2819	.2299	.2017	.1024	.1377	.0625	.3044	.2033	.2506	.4510	.4177
18	.4060	.0460	.2056	.3356	.3618	.1919	.5780	.4978	.6655	.5252	.3055

Item No.	9	5	4	3	8	10	16	18
9	1.000							
5	.4270	1.000						
4	.6784	.2926	1.000					
3	.5506	.3321	.6566	.1.000				
8	.5018	.3858	.3905	.3994	1.000			
10	.4491	.4361	.3625	.3379	.3841	1.000		
16	.5466	.4060	.5361	.6072	.4017	.3932	1.000	
18	.5845	.3223	.5236	.4218	.6166	.3337	.4309	1.000

Item correlation matrix #16 for the corporal punishment scale as seen from post-test observations

Item No.	15	13	17	2	1	6	12	14	19	17	11
15	1.000										
13	.2891	1.000									
17	.2941	.2941	1.000								
2	.3499	.3232	.3116	1.000							
1	.3823	.4532	.6400	.4611	1.000						
6	.2688	.3830	.2076	.3032	.3473	1.000					
12	.4242	.3844	.4660	.4843	.5629	.4503	1.000				
14	.4222	.3780	.6009	.4236	.7077	.3946	.5983	1.000			
19	.1784	-.1596	-.1599	.0729	.0291	-.1902	.0591	.0697	1.000		
17	.1099	-.1377	-.2074	.0187	-.0131	-.0786	-.0340	-.0188	.6022	1.000	
11	-.2139	-.4177	-.0997	-.2927	-.2333	-.2617	-.1751	-.1807	.3896	.3694	1.000
9	.4798	.4617	.3448	.4811	.5123	.3765	.4841	.6122	.0440	-.0590	-.4110
5	.0409	-.2539	-.1375	-.0189	-.1148	-.2034	-.0738	-.0979	.5183	.4939	.5422
4	.2836	.2206	.1989	.2228	.2938	.1423	.2549	.2890	.1156	.0685	-.0344
3	.2330	.2067	.2273	.3011	.3055	.3236	.3776	.3276	.0555	.0498	.1212
8	.1714	-.0117	-.0298	.1342	.1147	.0620	.1763	.1953	.4566	.3986	.3349
10	-.0862	-.1678	-.1218	-.0772	-.0916	-.0670	-.0110	-.0414	.2902	.2164	.2224
16	.2941	.0917	.2311	.2722	.2055	.1727	.2685	.2619	.0090	.0684	.0219
18	.3512	.2153	.3045	.2587	.4988	.1784	.4785	.5022	.1951	.0857	-.0607

Item No.	9	5	4	3	8	10	16	18
9	1.000							
5	-.1028	1.000						
4	.3699	.0158	1.000					
3	.3350	.1314	.5528	1.000				
8	.0684	.3289	-.0784	.0386	1.000			
10	-.0846	.1761	-.3125	-.2492	.3468	1.000		
16	.3182	.1488	.4824	.5286	-.0099	-.3042	1.000	
18	.4455	.0200	.3911	.3927	.1445	-.1043	.4782	1.000

Item correlation matrix #17 for the discipline scale as seen from pretest observations

Item No.	16	18	12	14	8	10	6	1	3	2	4
16	1.000										
18	.4111	1.000									
12	.3979	.5054	1.000								
14	.3029	.4422	.4222	1.000							
8	.4376	.5986	.5267	.3712	1.000						
10	.4327	.3145	.3064	.4239	.2428	1.000					
6	.1693	.1385	.1473	.1339	.1701	.0954	1.000				
1	.2945	.2859	.3682	.3775	.4498	.3012	.1002	1.000			
3	.3322	.1295	.1197	.1633	.1708	.2312	.1110	.1331	1.000		
2	.3009	.1874	.1792	.2216	.2997	.2356	.0603	.0875	.0942	1.000	
4	.2418	.1584	.1274	.1540	.1696	.2145	.0028	.1223	.6057	.1072	1.000
7	.2632	.1999	.2277	.1763	.2666	.2479	.0133	.2147	.1820	.2293	.1873
5	.2159	.2190	.1656	.1957	.2009	.2811	.0914	.1854	.1630	.1423	.2277
9	.3096	.1865	.1517	.1657	.2203	.2554	-.0257	.1410	.4620	.2124	.4734
11	.2456	.1676	.1058	.1554	.1252	.2006	.1057	.0207	.4099	.1571	.4368
15	.2733	.2551	.2923	.2579	.3077	.2581	.1063	.3007	.3249	.2557	.3312
17	.4164	.3707	.3416	.2929	.4640	.3856	.1137	.4419	.1937	.2436	.2344
19	.3448	.3988	.3205	.3758	.3665	.3359	.1652	.3607	.1917	.2467	.1926
13	.1312	.2116	.1496	.2066	.2999	.1632	.0070	.2482	.0285	.2327	.1217

Item No.	7	5	9	11	15	17	19	13
7	1.000							
5	.3151	1.000						
9	.2165	.3056	1.000					
11	.2201	.3384	.4683	1.000				
15	.3715	.3159	.2688	.2374				
17	.2896	.2263	.1592	.1479	.3621	1.000		
19	.1813	.0531	.3891	.2995	.2182	.5561	1.000	
13	.2570	.2358	.3815	.1721	.1962	.1927	.2558	1.000

Item correlation matrix #18 for the discipline scale as seen from posttest observations

Item No.	16	18	12	14	8	10	6	1	3	2	4
16	1.000										
18	.5412	1.000									
12	-.0142	.1221	1.000								
14	-.1338	.1401	.4734	1.000							
8	.1009	.2023	.5526	.5704	1.000						
10	-.2774	-.4110	.2120	.3616	.1354	1.000					
6	-.0794	-.0899	.2020	.1628	.1962	.2477	1.000				
1	-.1797	-.0274	.3519	.5640	.4175	.3191	.2064	1.000			
3	.4693	.2214	-.1327	-.2537	-.1602	-.0621	.0346	-.3256	1.000		
2	.5695	.5817	.0504	-.1153	.0952	-.3356	.0296	-.2387	.3841	1.000	
4	.5235	.3815	-.1074	-.2693	-.1704	-.1850	-.0571	-.3274	.5826	.4812	1.000
7	.5869	.5354	.0113	-.1936	.1309	-.3871	-.1247	-.1780	.3564	.5319	.4283
5	-.4097	-.3803	.2737	.3958	.2381	.4884	.2005	.5078	-.2888	-.4338	-.3819
9	.1002	.1080	.1964	.2465	.1001	.0917	.0232	.1514	.1849	-.0099	.1654
11	.1418	.0538	.1927	.1357	.2560	.0274	.1011	.0886	.1507	.0913	.1218
15	.2489	.3747	.1342	-.0185	.2499	-.3667	-.0529	.0629	.0079	.3202	.1552
17	.1583	.2553	.1164	.2392	.1406	.0145	-.0583	.2613	-.0367	.1470	.0470
19	.0796	.2028	.2987	.3818	.3125	.2584	.0975	.2939	.1200	.0718	.0473
13	.0530	-.0136	.1654	.2049	.0781	.2320	-.0075	.1052	.0352	-.0325	-.0184

Item No.	7	5	9	11	15	17	19	13
7	1.000							
5	-.4132	1.000						
9	.0084	.0971	1.000					
11	.0287	.0846	.5236	1.000				
15	.3902	-.0944	-.2186	-.1061	1.000			
17	.1550	.0430	-.2413	-.3508	.4336	1.000		
19	-.0313	.2337	.5789	.5083	-.1701	-.1186	1.000	
13	-.1001	.0908	.5730	.3800	.3128	.3363	.5792	1.000

Item correlation matrix #19 for the racial prejudice scale as seen from pretest observations

Item No.	19	18	17	16	15	14	13	12	11	10	9
19	1.000										
18	.7489	1.000									
17	.5070	.5311	1.000								
16	.5156	.5584	.4959	1.000							
15	.3497	.3612	.3268	.4470	1.000						
14	.1934	.1905	.3191	.1457	.2190	1.000					
13	.0250	.0464	.1630	.0371	.0393	.2489	1.000				
12	.4531	.4284	.3661	.4971	.3723	.2070	.0523	1.000			
11	.3179	.2980	.3067	.5241	.3931	.1776	.0087	.2965	1.000		
10	.3921	.3696	.3696	.4542	.4150	.2081	.1304	.3178	.5465	1.000	
9	.6154	.6312	.4745	.6200	.4301	.1946	.0892	.4208	.3981	.6076	1.000
8	.5092	.5391	.4400	.6171	.4587	.2163	.1739	.5608	.4407	.4512	.5773
7	.3005	.2788	.2071	.3635	.3114	.1533	.1040	.2513	.3056	.2781	.2239
6	.2554	.2226	.1524	.3196	.2256	-.0519	.0109	.3340	.1362	.0996	.2459
5	.2727	.2631	.2567	.4135	.3258	.0366	.0969	.2552	.4816	.4436	.3761
4	.6013	.6101	.4836	.5935	.4859	.2642	.0795	.3997	.4301	.5096	.7312
3	.5391	.5237	.3629	.5599	.3148	.1321	.0340	.4744	.3351	.3413	.5536
2	.0903	.0979	.0730	.1147	.1362	-.0769	.0807	.2190	-.0084	.0317	.0713
1	.1162	.0981	.0696	.0723	.0665	.2550	.1007	.1642	.0035	.0844	.1077

Item No.	8	7	6	5	4	3	2	1
8	1.000							
7	.3933	1.000						
6	.2828	.1993	1.000					
5	.4644	.3280	.1797	1.000				
4	.5652	.2516	.2015	.3895	1.000			
3	.5926	.2630	.2952	.4562	.5825	1.000		
2	.1850	.1284	.1756	.0677	.0755	.2140	1.000	
1	.0737	.1036	.1131	-.0335	.1541	.1001	.1988	1.000

Item correlation matrix #20 for the racial prejudice scale as seen from posttest observations

Item No.	19	18	17	16	15	14	13	12	11	10	9
19	1.000										
18	.1024	1.000									
17	.1271	.6686	1.000								
16	.3503	-.1683	-.1126	1.000							
15	-.0713	.6621	.5087	-.1668	1.000						
14	.3377	-.3614	-.1830	.3139	-.4540	1.000					
13	.2338	-.4883	-.3599	.3963	-.4783	.5473	1.000				
12	.4569	-.0504	-.0020	.5588	-.1231	.3948	.2783	1.000			
11	.3768	-.0876	.0423	.4247	-.0929	.1445	.2481	.4900	1.000		
10	.4898	.0918	.0803	.4051	-.0649	.2779	.2374	.5164	.3889	1.000	
9	.5033	.2543	.3457	.2770	.0022	.2282	.1256	.4876	.4566	.5984	1.000
8	.0095	.6447	.5945	-.2400	.5645	-.2748	-.4503	-.0901	-.0152	-.0171	.1560
7	.2858	-.3476	-.2491	.5867	-.3721	.4316	.5076	.5520	.3938	.3844	.2929
6	.0181	.5927	.5295	-.0671	.5274	-.1814	-.3797	.1127	.0040	.0804	.2382
5	.1234	.6501	.5687	-.0410	.5619	-.2993	-.4285	.1111	.1708	.1617	.3376
4	.3204	.0894	.0580	.2845	.0297	.2212	.3320	.2568	.1661	.3181	.3686
3	.3195	.2312	.2792	.2496	.1731	.1111	.0338	.3108	.3141	.3340	.4326
2	.1797	-.2828	-.2925	.2568	-.2027	.1955	.3736	.2618	.2385	.1314	.0710
1	.2484	-.2377	-.1830	.1429	-.2084	.3306	.3241	.1428	.1698	.2226	.0162

Item No.	8	7	6	5	4	3	2	1
8	1.000							
7	-.3831	1.000						
6	.5123	-.1903	1.000					
5	.5926	-.1488	.6147	1.000				
4	.0177	.2857	-.1894	-.1375	1.000			
3	.2194	.1144	.0589	.1149	.4717	1.000		
2	-.1956	.2586	-.2789	-.2499	.2604	.1841	1.000	
1	-.2686	.2578	-.3970	-.2717	.2835	.1898	.2825	1.000

Item correlation matrix #21 for the grades scale as seen from pretest observations

Item No.	18	16	10	8	3	4	5	9	11	17	19
18	1.000										
16	.5676	1.000									
10	.6542	.4479	1.000								
8	.6374	.4399	.3376	1.000							
3	.4215	.4791	.3351	.4179	1.000						
4	.4047	.4894	.3714	.3290	.5680	1.000					
5	.3013	.3645	.3548	.3630	.2262	.2668	1.000				
9	.5477	.5241	.4657	.5546	.5222	.3622	.2556	1.000			
11	.4102	.5166	.4604	.3677	.3377	.1332	.3535	.2424	1.000		
17	.4992	.3770	.3761	.4546	.3461	.1770	.3611	.4651	.2454	1.000	
19	.5604	.4109	.3526	.5105	.4412	.1194	.3322	.4743	.2996	.7087	1.000
14	.4444	.3608	.4292	.5537	.3957	.1603	.3493	.4337	.2949	.5393	.5368
12	.5339	.4898	.3643	.5397	.5284	.1322	.1987	.4616	.3482	.5718	.5702
6	.1742	.1780	.1368	.2195	.3182	.1662	.1543	.1758	.1700	.2673	.3526
1	.4463	.3156	.3395	.4450	.4528	.1782	.2121	.3802	.2465	.3365	.3710
2	.1492	.0866	.0657	.1693	.1638	.2028	.2005	.2293	.1175	.2603	.3024
7	.2257	.2117	.2526	.2264	.2840	.1804	.0853	.2473	.1859	.2809	.2085
13	.4194	.2980	.2665	.4540	.3616	.4095	.1516	.4355	.2035	.3570	.2694
15	.3192	.2889	.3293	.3898	.3324	.1024	.2101	.2717	.2979	.4134	.4341

Item No.	14	12	6	1	2	7	13	15
14	1.000							
12	.5507	1.000						
6	.3104	.3441	1.000					
1	.4603	.5427	.2951	1.000				
2	.2177	.2963	.1138	.1274	1.000			
7	.1767	.3992	.1655	.3153	.3141	1.000		
13	.3676	.4489	.0775	.3246	.1069	.3087	1.000	
15	.2888	.4586	.0686	.2780	.2512	.3010	.3572	1.000

Item correlation matrix #22 for the grades scale as seen from posttest observations

Item No.	18	16	10	8	3	4	5	9	11	17	19
18	1.000										
16	.7310	1.000									
10	.5179	.4771	1.000								
8	.7337	.6432	.4328	1.000							
3	-.1750	-.1445	-.1630	-.1675	1.000						
4	-.3883	-.3090	-.2287	-.3715	.6121	1.000					
5	.1689	.1881	.1843	.1649	.1613	.0163	1.000				
9	-.3068	-.2640	-.2581	-.3335	.5930	.5925	.0514	1.000			
11	-.1063	-.1883	-.1381	-.1226	.5011	.4044	.2706	.4292	1.000		
17	-.0782	-.0588	.0733	.0325	.2064	.3378	.2019	.2747	.1441	1.000	
19	.6153	.5137	.5487	.5690	-.1168	-.2454	.1625	-.0895	-.0362	.1632	1.000
14	-.0735	-.1536	-.1493	-.0465	.3875	.4283	-.0396	.5471	.3656	.3276	.0900
12	.5856	.5829	.3960	.5592	.0393	-.1545	.2385	-.0319	.0310	-.0289	.4243
6	.0873	.1055	.0214	.1542	.0965	.0397	.0020	.0423	-.0103	.2575	.0303
1	.2010	.1917	.1904	.1121	.1938	.1038	.2350	.2186	.2003	-.0371	.2756
2	-.0011	.0803	-.0573	.1408	.2769	.1664	.0146	.0297	.0478	.3087	-.0425
7	.2292	.2521	.1464	.2725	.0229	-.0914	.2614	-.1020	.0356	.0642	.2613
13	.0539	.0549	-.0015	.0068	.1221	.1049	-.0198	.1348	-.0702	.2160	-.0462
15	.1518	.1101	.1188	.1841	.0904	.0681	.1839	.1244	.2661	-.0958	.1987

Item No.	14	12	6	1	2	7	13	15
14	1.000							
12	.0275	1.000						
6	.0564	-.0298	1.000					
1	.2425	.3724	-.3998	1.000				
2	.0147	-.0203	.4300	-.2442	1.000			
7	.0058	.1978	-.0230	.2731	-.0122	1.000		
13	.0815	.1162	.3383	-.2200	.3087	-.0319	1.000	
15	.1423	.2266	-.1801	.3755	-.1366	.0799	-.2901	1.000

Item correlation matrix #23 for the church scale as seen from pretest observations

Item No.	16	12	8	1	4	7	11	15	19	18	14
16	1.000										
12	.7274	1.000									
8	.6545	.7671	1.000								
1	.4894	.4769	.4710	1.000							
4	.5418	.5298	.4928	.4593	1.000						
7	.5559	.4902	.5160	.4997	.4484	1.000					
11	.4963	.3818	.3376	.3644	.4346	.5146	1.000				
15	.3436	.3810	.3184	.3217	.4308	.3432	.3883	1.000			
19	.5014	.5071	.4412	.5064	.5153	.4660	.3680	.4306	1.000		
18	.6129	.5780	.5944	.3667	.4601	.4595	.3349	.3669	.5080	1.000	
14	.4996	.5450	.5071	.5499	.5209	.5142	.3865	.4121	.5447	.4392	1.000
10	.4516	.4737	.4026	.3196	.4340	.4292	.5102	.3992	.4813	.4623	.4808
6	.0703	.1111	.0816	.1837	.0270	.1189	.1220	.1421	.2344	.1002	.2430
3	.6369	.6063	.6287	.3819	.4743	.5273	.4427	.3427	.4521	.5663	.4954
2	.4039	.4553	.4048	.3184	.4243	.4826	.3293	.2731	.4078	.4355	.3906
5	.4880	.4888	.4799	.3453	.3345	.4500	.2836	.2988	.2869	.4827	.3427
9	.6424	.5560	.5489	.4185	.5013	.4362	.4145	.3274	.5098	.5884	.5319
13	.5081	.6905	.5655	.4593	.5186	.4396	.3569	.3894	.5376	.5019	.5632
17	.6191	.5590	.5389	.4932	.4276	.5918	.4479	.3487	.6050	.6034	.5491

Item No.	10	6	3	2	5	9	13	17
10	1.000							
6	.1429	1.000						
3	.4339	.1289	1.000					
2	.3653	.0881	.6416	1.000				
5	.3660	.0361	.4326	.3938	1.000			
9	.4785	.1240	.5846	.3400	.4589	1.000		
13	.5024	.1792	.5327	.3541	.3400	.5625	1.000	
17	.5416	.1748	.5756	.4710	.4767	.5853	.4911	1.000

Item correlation matrix #24 for the church scale as seen from posttest observations

Item No.	16	12	8	1	4	7	11	15	19	18	14
16	1.000										
12	-.0874	1.000									
8	.7738	.0122	1.000								
1	-.1198	.2880	-.0740	1.000							
4	-.1186	.4257	-.1409	.6190	1.000						
7	.3975	.0652	.4698	.1313	-.0221	1.000					
11	.7191	-.1270	.7744	-.1189	-.1824	.5190	1.000				
15	-.1470	.4886	-.1217	.2872	.2932	.1154	-.1169	1.000			
19	-.23	.4163	-.2260	.4213	.4894	.0173	-.2973	.3570	1.000		
18	.7077	-.0681	.7912	-.1068	-.1068	.4040	.6999	-.1374	-.1823	1.000	
14	.5912	-.1988	.6330	-.0003	-.0429	.3238	.5710	-.3332	-.1796	.6088	1.000
10	-.1847	.3795	-.1486	.3029	.4317	-.0294	-.2027	.3262	.5418	-.1774	-.2024
6	-.4120	.2279	-.5164	.3085	.2776	-.2783	-.6049	.2074	.3210	-.4977	-.4102
3	.6658	.0486	.6988	-.0477	-.0587	.3282	.5978	-.0618	-.0921	.6007	.5235
2	-.0571	.3321	.0341	.2058	.1877	.0216	-.1203	.1984	.3423	.0021	-.1074
5	..5214	.0063	.5680	.1161	.0230	.4225	.5667	-.0067	-.0113	.4276	.4196
9	.6335	.0553	.6564	-.0573	-.0135	.3943	.6264	-.0295	-.0755	.5862	.5335
13	-.0099	.3183	.1468	.2926	.2893	.2190	.0845	.1719	.1977	.1394	.1166
17	.6462	-.0394	.7065	-.0133	-.0128	.5004	.6757	-.0837	-.0055	.6321	.6223

Item No.	10	6	3	2	5	9	13	17
10	1.000							
6	.2156	1.000						
3	-.1207	-.3709	1.000					
2	.3219	.2149	-.0890	1.000				
5	-.0009	-.3783	.4114	.0772	1.000			
9	-.0978	-.4374	.6881	-.1915	.4088	1.000		
13	.1751	.0578	-.1067	.4130	.2393	-.0448	1.000	
17	-.0684	-.4432	.6377	-.1211	.5771	.7003	.0914	1.000

Key to correlation matrixes

Item #	Meaning of scale poles
1	strong - weak
2	sensitive - insensitive
3	pleasant - unpleasant
4	happy - sad
5	sacred - profane
6	objective - subjective
7	hardworking - lazy
8	valuable - worthless
9	nice - awful
10	clean - dirty
11	fragrant - foul
12	positive - negative
13	interesting - boring
14	successful - unsuccessful
15	sophisticated - naive
16	beautiful - ugly
17	honest - dishonest
18	good - bad
19	fair - unfair

APPENDIX C

Instructors means and means and standard deviations for control and experimental groups

Concepts	Control group pretest M	σ	post test M	σ	instructor M
Punctuality	61.44	15.43	64.40	17.26	63
American Negro	85.45	19.06	82.29	21.01	54
Public school teachers	64.87	15.23	63.97	16.33	42
Children	66.50	14.13	63.64	15.39	49
Human nature	73.48	16.57	73.64	17.60	61
Interracial dating	91.72	18.88	90.22	22.13	53
Absolute truth	65.94	21.97	68.94	21.66	70
Church	57.07	20.97	61.55	21.18	55
Discipline	70.85	14.61	76.26	16.91	65
Grades	89.42	18.22	90.99	17.07	61
Racial prejudice	103.83	20.44	104.74	17.44	103
Corporal punishment	97.29	15.78	99.36	15.41	102

Concepts	Experimental group pretest M	σ	post test M	σ	instructor M
Punctuality	60.07	15.28	64.94	19.19	72
American Negro	80.82	17.45	78.61	19.57	49
Public school teachers	66.68	17.75	80.64	20.30	76
Children	65.05	16.51	65.55	16.65	58
Human nature	73.10	18.43	77.32	18.66	71
Interracial dating	85.98	18.41	84.36	20.47	68
Absolute truth	67.32	21.54	74.53	22.16	89
Church	57.47	22.42	69.47	21.88	85
Discipline	72.29	16.27	86.44	19.49	73
Grades	90.44	17.07	96.21	16.41	93
Racial prejudice	102.14	16.86	102.21	16.53	110
Corporal punishment	97.19	15.03	98.86	17.14	104